ITEMS OF INTEREST.

VOL. XVIII. AUGUST AND SEPTEMBER, 1896. NOS. 8, 9.

A PLAIN STATEMENT.

ITEMS OF INTEREST *versus* WELCH'S MONTHLY.

On or about July 25th, the Consolidated Dental Manufacturing Company purchased from the Receiver of the Wilmington Dental Manufacturing Company, the ITEMS OF INTEREST. We paid a liberal price in cash, and under the terms of the contract we became sole owners of the name, the plant, the property, and especially of the good-will of the magazine.

When the property of the journal was forwarded to us, we received one manuscript, written by a gentleman who admits that this was his maiden effort in dental literature. Notwithstanding the fact that on the 25th of July, the August number of the journal should have been in press, nothing beyond the aforementioned manuscript was delivered to us. We have consequently been searching for the matter which must have been in preparation for the August issue.

We have at last found it.

It has been published, and undoubtedly has already reached our subscribers, bound in what is practically the well-known cover of the ITEMS OF INTEREST, upon which, however, a close observer may notice the name, *Welch's Monthly.*

None but close observers would notice it. Indeed it is only too evident that the publishers of this new venture hope that subscribers of the ITEMS OF INTEREST would not notice this, the only change in what had been intended to be the August number of the old journal.

In evidence of the truth of this assertion, we will ask our subscribers to compare the July number with this August imitation of our journal. See how closely the front pages of the

covers match in color and general arrangement. On second page of cover, compare the type, and note the fact that in the index we find the old familiar sequence, beginning with "Original Communications," and concluding with "Notices." Also observe that at the bottom of the page the statements regarding subscriptions are couched in identical language.

Throughout the body of the journal the topography is identical. If further proof were needed of our statement that the entire contents of *Welch's Monthly* were originally intended for the ITEMS OF INTEREST, we need only quote from the editorial entitled "Editing."

During the last few months the editors of other dental journals have been complaining of Dr. Welch's method of clipping from their magazines without due credit, and a series of editorials have resulted. This editorial, in the first number of *Welch's Monthly*, is too evidently intended as a final reply in the ITEMS. Note the paragraph beginning, "Only the other day we had occasion to use an excellent essay," etc.

Only the other day he had occasion to use an essay! Where did he have occasion to use it? Is not this the first number of a new journal? Having abandoned the ITEMS OF INTEREST, why should he begin by apologizing for the errors of judgment therein? The fact is only too plain, that this editorial was written for the old journal, and has been utilized for the new, along with the matter prepared by Mrs. J. M. Walker and by Dr. E. N. Francis, as well as all the other contents.

A word in regard to Dr. Welch. We have always held the doctor in the highest esteem, and in this matter we excuse him from blame, and extend to him our sympathy at the anomalous position in which he finds himself through the dishonorable action of his employer, Mr. A. S. Robinson.

Now who is A. S. Robinson? Prior to July 25th he was the business superintendent of the ITEMS OF INTEREST. Learning of the sale of the journal, he at once decided to attempt a continuance of the magazine, as his personal property. In evidence of this statement the following quotation from a circular letter sent by him to the dental trade is convincing:

" 'The Items of Interest' has gone to the Consolidated Dental Manufacturing Company, but its editor has not gone with it. I have secured him for a term of years, and within the next few days there will appear *Welch's Monthly*, which will be really our old friend ITEMS OF INTEREST under a new name."

This is the most brazen admission of a dishonorable intent which it has ever been our misfortune to read. In the same letter he offers the subscribers of the ITEMS who will take his journal, to furnish *Welch's Monthly* free from now till January 1st.

The subscription list of the ITEMS is kept in a library cabinet, and is practically a card catalogue. As soon as Mr. Robinson heard of the sale of the ITEMS to us, and before the legal transfer could be effected, he abstracted these cards and had copied from them a list of our subscribers and their addresses, and thus was enabled to make the attempt to deprive us of the chief property right in the journal. We have affidavits and proof of all of these assertions, which Mr. Robinson will shortly be asked to meet in court, as we are fully determined to protect our rights and property.

We are, however, satisfied that the justice of our subscribers, and their sense of honor, would prevent them from lending their encouragement to such a method of floating a new dental journal. We wish, however, to call attention to one important fact. We come into possession of the magazine in the middle of the year, when all subscriptions have already been paid to the previous owners. Our own notions of honest dealing lead us to continue sending the magazine throughout the balance of the year, without cost to the subscribers, even though it be at great expense to ourselves. We think that in common fairness to us, should there be a few who will decide to give their support to *Welch's Monthly*, intending to cancel their subscriptions with us, that these should announce their decision at once, that we may be saved the trouble and expense of mailing our magazine where it will not be appreciated.

We will thank all subscribers who have received the circular sent out by A. S. Robinson, if they will forward same with original envelope to us. Assuring those who give us their support that we intend, without increase of subscription price, to furnish a journal which shall be the peer of any published, and thanking the many patrons who have already notified us of their good-will by letter;

Very truly,

THE PUBLISHERS.

ORIGINAL COMMUNICATIONS.

NEW JERSEY STATE DENTAL SOCIETY.

The twenty-sixth annual meeting of the New Jersey State Dental Society was held at Asbury Park, N. J., July 29th, 30th, and 31st, 1896.

JULY 29TH, MORNING SESSION.

The meeting was called to order by the Vice-President, Dr. Harvey Iredell, the President being absent. The session was opened with prayer by the Rev. Joseph G. Reed. The chairman then explained that the President, Dr. Sanger, had unexpectedly gone to Europe, but had left his address, which was then read by the Secretary.

ANNUAL ADDRESS BY THE PRESIDENT, R. M. SANGER, D.D.S.

To-day begins the twenty-sixth year of our existence. With the closing of the first quarter of a century, we have passed through our childhood and youth, and stand in the full strength and vigor of manhood with all the hope and promise of a brilliant future. The promise is strengthened as we take a retrospective view of our history, and contemplate, with pardonable pride, the work accomplished and the strides made in the elevation of our profession in this State. Especially is this true along the lines of a higher standard of dental education, where you have always been found in the forefront of the battle; but that all is not yet accomplished is shown by the results of the work of your Legislation Committee this winter.

Having prepared an amendment to the present State Dental Law, which made it as nearly perfect as it is possible to make any general State Law; and having successfully carried it through the Senate, it was finally side-tracked in the House, through the political influence of a man, who is able to practice in this State to-day because of a lack of funds wherewith this Society could properly prosecute him. It is an open secret that if your committee had consented to grant this man immunity from prosecution under the law, all opposition to the passage of the bill would have been withdrawn; and I congratulate you on the possession of a committee, whose good judgment and high sense of honor made them stand firmly on the ground that honorable defeat is preferable to dishonorable victory. This brings us face to face with a

weak point in our armor, which we should now look to the Legislature to repair. The remedy lies within ourselves. Ever since the first Dental Law was passed we have been hampered by a lack of funds with which to get the cases of infraction of law in such shape that they could be presented to the court with a reasonable hope of a favorable decision; and while many have given up illegal practice, rather than face the prospect of a law-suit, some few have discovered our weakness, and have grown bold, and openly defying us, as in the case just cited. I would, therefore, recommend the establishment of a "Prosecuting Fund," the collection and disbursement of which shall be in the hands of a committee to be appointed during this meeting in such manner as you may deem best.

In National as well as State dental education, New Jersey has always played an important part, and it is not surprising to find among the best of officers of the National Board, the name of our esteemed member, Dr. Charles A. Meeker, as Secretary.

Having served us most acceptably, for 21 years, in a similar position, it is not strange that immediately upon his becoming a member of the National Board, they should have sought his services in this important office. This is the natural result of a well-earned social and professional reputation. Our Society having gained National fame, his reputation as your Secretary has also become National.

To find a single name missing from the roll has been an unusual experience for this Society in recent years; consequently it is with extreme sadness that this year we are called upon to mourn the loss of one of our members—Dr. H. Lyman Clarke, of Rahway, and I recommend the appointment of a committtee to draw suitable resolutions touching the loss of our brother.

Of the work of the various standing committees, too much cannot be said in praise. Every department shows unmistakable evidence of vigor and push, which is the best proof of the healthy condition of the Association. But, as others learn from us, so must we learn from them; and I would respectfully call the attention of the Committee on Materia Medica to the advanced work being done by the similar committee of the State of Illinois. In this connection, I would recommend the formation of a committee to investigate and report upon the advisability of establishing a chemical laboratory, under the supervision of this Society.

The programme which is before you is a sufficient guarantee of the good things that await you, and I will not detain you

longer, only pausing to compliment the committee on its very efficient work, and to say to our visiting friends that the hand of welcome is gladly extended to them; and that the full privileges of the floor is theirs as long as they remain our guests.

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Upon motion of Dr. G. Carleton Brown, the address of the President was referred to a committee of three, who should report upon the adoption of the suggestion recommended.

Secretary Meeker reported that he had brought with him the minute book containing the proceedings of the Society at its last meeting, and would read the minutes if the members desired. He had made a contract with the S. S. White Company, by which they agreed to have the proceedings of the Society published prior to the present meeting, but that they had failed to do so.

The reading of the minutes was passed.

Upon motion of Dr. G. Carleton Brown, a committee of three was appointed to confer with other journals and arrange terms of publication of the proceedings of the meeting of 1896.

Dr. Meeker read a letter from Dr. Donnelly requesting the Society to coöperate with the American Dental Association in the work of sending dental material to the National Dental Museum and Library at Washington.

Dr. L. Ashley Faught reported that he had personally visited the Museum and found therein already a wonderful collection. Space has been set aside to receive any collections which may be sent, and they are willing to purchase everything which will be of value. He thought that a committee should be appointed to carry out Dr. Donnelly's wishes.

A motion prevailed to this effect.

The Secretary, Dr. Meeker, read a letter from Dr. J. Milton Smith apologizing for some references in his paper of the year before.

AFTERNOON SESSION.

The Vice-President, Dr. Iredell, introduced Dr. L. Ashley Faught, of Philadelphia, who read the following paper:

ORAL HYGIENE.

By L. Ashley Faught, D.D.S., Philadelphia.

Nearly ten years ago, it was my privilege to read a paper on this subject before the Pennsylvania State Dental Society. The germ of what I said at that time was: That Oral Hygiene

is the work of the patient, and comprises the preservation and maintenance of the dental organs in a condition of health. At the same time I formulated for the profession a new creed. "Failure in operations and tooth loss are mainly due to the lack of oral hygiene." Ten years have only served to confirm this dogma.

There is nothing more gratifying to the conscientious dentist that the knowledge that his efforts are intelligently seconded by his patients. Our duty is, therefore, to advise and instruct our patients generally, or in accordance with the necessities of special conditions, but we are not called upon to turn our offices into dispensing drug-stores, or into depots for the *sale* of tooth-washes, tooth-brushes, tooth-powders, floss silk, etc. The plea of accommodation is not adequate in large cities, where the drug-store is adjacent to almost every home. Nothing in this strict-ure is to apply to our handing to a patient, as a gift, a sample of that which we advise; for I find that where this is done, the patient more promptly and thorougly follows out our professional advice.

The time when the use of a tooth-brush alone, or perhaps loaded with a dentifrice, was accepted as all-sufficient on the part of the patient, has well-nigh passed. More is now to be expected and advised. It is true that these valuable adjuncts cannot be laid aside or ignored, but their use is to be supplemented.

At the risk of having this paper charged with being elementary, it is proposed to consider tooth-brushes, tooth-powders, tooth-washes and mouth-washes.

First of all there is the tooth-brush. The combined wisdom of the profession has made its impress on this article, and manufacturers have endeavored to follow our teaching; still the forms and shapes in use are numberless—few combining all the good points. My own ideal is the "Prophylactic," and I believe it to have the acceptance of most of my professional brethren. Through my advice, it is in almost universal use among my patients. If I am wrong in my selection, I shall be most happy to correct the error; but what I deem important is that, as a profession, we should agree upon and universally advise the same. My argument is that there is a correct shape, and that we as dentists should decide upon it finally so that recommendation to our patients would prevent the use of any other, except where a deviation was made for specific purposes.

It is absurd in this age to say: Any kind, so it is a brush. You might just as well say: Use it in any manner. The mode of

use not long ago became a matter of accepted teaching, and I find upon inquiry, that few people to-day are unaware of it. The large majority have been properly instructed. Let us now begin at the beginning—the construction of the brush itself. That is the foundation of the first step in oral hygiene.

Tooth-powders and tooth-washes do not demand that they should be so specifically considered. Unanimity regarding their composition and use has practically existed for years, and no radical departure now seems to be required.

Mouth-washes being more in the nature of a medicament, have received at the hands of the profession more general consideration, and it would be assumption on my part to take up your time by discussing those already well known. There is, however, one which is comparatively new, and with which I have during the last year experimented considerably with much satisfaction—Borolyptol.

When my attention was first directed to this preparation, I looked upon it as only one of the many others in the market, akin to the well-known Listerine. It is quite different.

The formula given is:

Formaldehyde 0.2 per cent.
Aceto-boro-glyceride 5 per cent.
With Pinus pumilio,
Eucalyptus,
Myrrh,
Storax,
Benzoin.

Two principal ingredients, and five which may be looked upon as flavoring matters. The benefits obtained are due to the two, and have been said to be due to the one, Formaldehyde. I am inclined to believe they are due to the two, and for the following reasons:

Some time ago, in the latter part of 1883 and the spring of 1884, my attention was directed to a preparation which was then introduced to the medical profession by my brother, G. Granville Faught, M. D., which he called Boroglyceride. It was essentially a combination of Boracic acid and Glycerine, of a light amber color, vitreous, and without odor, soluble in glycerine in all proportions, and by applying heat, to the extent of 10 per cent. in water. From the very nature of the ingredients it was non-irritating, soothing, detergent, astringent and antiseptic.

I made considerable use of this medicament, which proved it-

self non-toxic and non-irritant to the tissues. The Aceto-Boroglyceride in Borolyptol is the embodiment of these features in more convenient form.

In the Ephmeris of Dr. Squibbs for 1884 and 1885, Vol. II, p. 796, the effects of Boric acids are referred to when used as a protective to prevent vegetable growths in other fluids, and a series of experiments extending over six months given, with results showing "a strong probability that Boric acid in the proportion adopted—namely, a half of one per cent.—will protect these solutions until they are used up in any ordinary practice."

A fluid, then, made up alone of five such ingredients as Pinus, Pumilio, Eucalyptus, Myrrh, Storax and Benzoin, approximates Listerine in its nature and uses, and commends itself as a mouth-wash to the dental profession. When, however, Aceto-Boroglyceride is added, it is, by the addition of the qualities we have just studied, moved forward into a much higher class; and when we go still further and add Formaldehyde, we carry it beyond the others into a class by itself, for it has supplied to it then a germicidal quality, without the addition of anything poisonous or irritating.

In substantiation I quote Dr. J. C. Smith, Director New York Post-Graduate Medical School Laboratory, who says: "Borolyptol is equal to, and in some instances a better germicide than, a 1-1000 Bichloride of Mercury solution," which testimony has also been made by Dr. Philip Jaisohn, Pathologist in the Garfield Memorial Hospital, Washington, D. C.

The effects of Formaldehyde in a 40 per cent. solution (Formalin) have been abundantly proven to be far more efficient in much smaller quantities than Corrosive Sublimate, Borax, Boric acid, Salicylic acid or Benzoic acid; and exceedingly potent when used in even less proportion.

Two English practitioners of medicine, Mr. Charles Slater, M. R. C. S., and Mr. S. Rideal, D. Sc., both of London, England, have carried on a complete series of experiments, and find it possesses very decided antiseptic and disinfectant properties. Those interested are referred to their report on "Formaldehyde as an Antiseptic," in the London *Lancet*, Vol. I, for 1894, p. 1004.

The impression on my mind made by this knowledge regarding Boroglyceride and Formaldehyde led me to make use of Borolyptol and recommend it to my patients as a mouth-wash, either dilute, or in full strength. I have found in its application a substance that may prove exceedingly useful in the hands of

the dental profession; it is certainly worthy of your attention and investigation, and makes a forcible plea for its admission into the dental materia medica.

DISCUSSION.

DR. C. S. STOCKTON.

If there is one thing that is lacking in the dental profession to-day, it is not the ability to fill teeth, not the ability to supply the deficiency when the natural teeth are lost, but it is in the care with which they pretend to cleanse the teeth.

I have seen a great many patients who have had splendid work done; none could be better, so far as the fillings were concerned. They were an honor to the gentlemen who did them, yet all around, under the margins of the gums, were the accumulations not only of a year, but of years. Unless intelligence is used in cleansing the teeth, you may use Borolyptol with no better effect than with water. Nor is there any excuse for this after all that has been said and written, and with the excellent instruments that are at your disposal. No patient should leave your chair unless the teeth are thoroughly cleansed.

My friend, Dr. Faught, has gone a good way in his recommendation of Borolyptol. It may be all right—I don't doubt that it is—but our friend, Dr. MacKellops, has so hammered at the profession that I did not suppose there was any man to-day brave enough to lend his name to any patent medicine, as Dr. Faught has. MacKellops thinks (I am not saying what I think) that it is degrading the profession, and he has a record of every man who has done anything of that kind, and you will notice that, since the scourging of our friend Mac, very few men have the courage to recommend these preparations.

Now as to tooth-brushes, I understand there is only one firm that makes the Prophylactic brushes. I would not like to go as far as some; but, eliminating that brush from the discussion, nine-tenths of the brushes on the market to-day are not fit to be used! They are entirely too large. Some of these large brown brushes are not even fit to go in a horse's mouth—it would be an insult to a horse to attempt to brush his teeth with one.

There is another thing which many of us fail to impress upon our patients, and that is, that the gums need brushing as well as the teeth. If the patient will do that properly it matters little whether he uses Borolyptol or water.

DR. J. FOSTER FLAGG, Philadelphia, Pa.

It was only recently that the Academy of Stomatology, of San Francisco, had presented to it a most exhaustive *resume* on bacteriological work in regard to oral matters. The paper by Dr. Younger was drawn from reliable sources, and was a very excellent one. But what was the discussion which ensued? After this elegantly presented paper had been read one gentleman said he "* * * had been very much interested in this subject. It was a subject upon which he knew little or nothing; that he recognized the importance of keeping a dental office clean, and he thought it was a very important thing that the dentist should keep his finger nails clean." Another gentleman arose and said that, like his predecessor, he "* * * had very little if any knowledge upon this important subject; but he also felt that it was very important indeed that cleanliness should be urged upon the dental profession." Such a dirty, miserable crowd as they generally are, he thought the importance of cleanliness should be urged upon them. He said he was often impressed by the remarks of patients, that Dr. So and So was clean and his office neat and they always liked to go to him, and that a certain other Doctor's office was dirty and they did not like to go there. But what impressed him most of all was that the dentist should keep his finger nails clean! The third gentleman who discussed the paper said that he was very much impressed with the paper and he thought it should be impressed upon the dental profession not only to be cleanly about their office and instruments and surroundings, but also about their persons and clothes.

And that is all the discussion accorded to that admirable paper by the learned members of the Academy of Stomatology, of San Francisco. Moreover, that is a typical discussion of a paper read before a dental society. If you read the discussions throughout the United States, you will find that they are just about as scientific.

The subject now before us, as our friend has presented it, it seems to me is a very important matter. The hygiene of the mouth has very nearly all to do with the success of our work, that is, the maintenance of the teeth *in situ*. We recognize that although our friend, Dr. Black, has said that there is no choice in fllling materials, he said that because he did not know anything at all about it. We recognize certain teeth which we can fill with gold, and when the patient asks us how long it will last, we tell him that we will see him at the end of the first forty years and then talk to him about it. I know the Good Book says that

we know not what a day or an hour may bring forth, but we recognize that, other things being equal, that filling will be there thirty to forty years from that day, whether the patient be dead or alive. Further than that, we also recognize that if we fill another class of teeth with gold, at the end of forty years they will not be there at all.

I regard this paper as a first-rate advertisement of what I believe to be a first-rate article.

I suppose Faught is not afraid of Mac—I know I am not!

Under these circumstances, and as I have never seen any particular reason for antagonizing advertising, I will say that if a man feels conscientiously—more than that, if he knows scientificially that a material is a good one—I do not see why he should not say so.

I do not take much stock in tooth-brushes. My friend Dr. Lord, of New York, on one occasion said that he was not sure—and he is a man of a great deal of observation and experience—but that it would have been better for the teeth if all the tooth-brushes had been at the bottom of the Red Sea. I have always believed that anything which Dr. Stockton says about dentistry is true, and as he says that nine-tenths of the tooth-brushes are good for nothing, then I think Dr. Lord's opinion is about my opinion. I think that ninety-nine one-hundredths of the tooth-brushes sold in the drug-stores are good for nothing. Their shape does not amount to anything, and you know shape is a great thing! Their bristles do not amount to anything—they are altogether too stiff or altogether not stiff enough. A happy medium in stiffness is the great thing under all circumstances. It seems to me that the subject of brushes ought to be ventilated at just such a meeting as this.

But when it comes to the scaling of teeth, the removal of something which requires instruments, let me tell you that there is not a scaler in a thousand that is worth a dollar a thousand! The only scalers that have been of any service in my hands are modifications of the Riggs instruments, and you will not find one sold over the counter of any dental depot in this world that amounts to anything, unless it is specially ordered. My friend Jardic, of the University of Pennsylvania, on one occasion remarked that it is self-evident that they are good for nothing. I am not sure whether it was Jardic or Barker, it was one or the other—Barker is dead, so he cannot make any denial.

Now, it seems to me, that when it is self-evident that a thing is good for nothing, it is worth investigation; for things

that are self-evident I have strong doubt about. So I obtained from Jefferson Riggs a set of scalers, and while they were awkward to use in the beginning, still, after a few months of persistent use, I found they were certainly instruments with which I could do practically everything in the scaling of teeth.

Only a short time ago one of our demonstrators came into the clinic with a case in which he said he had done all that he could with two lower incisors, and that the patient must have constitutional treatment. With delicate probes I detected small excrescences on the lower portion of the teeth, and I said, "Dr. Hughes, these teeth only require scaling." "Why," he said, "they have been scaled." I took one of Riggs's scalers, straight as a bayonet—the bayonet is the thing to rely upon when you want to make a fight—the bayonet is the thing that tickles! I passed it down and said, "Listen—click! click! click! And these are the teeth that have been scaled!" But when they had been scaled, and the mouth carefully rinsed out with not too much Borolyptol, the trick was done, and a few days later my young friend Hughes presented himself at the clinic and reported that everything was nice as pie—apple pie!—and I told him that all the constitutional treatment needed was the point of a "constitutional" scaler!

But this subject is perfectly exhaustless; it should be discussed all this afternoon and evening, and all the time until the officers are elected.

That is my idea of the subject of "Oral Hygiene."

DR. FAUGHT.

If anything I have presented in this paper is an advertisement, I care nothing for that part of it. I am one of those who rarely puts his name to a paper which he does not believe contains facts which he believes to be true. What I have said in this paper I believe to be true, and I subscribe to it.

I supposed that every gentleman here who knows me would recognize that he had never—I say "never"—seen my name attached to an advertising circular concerning an instrument, and I hope he never will. But I distinguish between writing such things and stating facts before an association of this kind.

There is perhaps no preparation which has been so much pushed as has Borolyptol, and if any of you gentlemen, who have the facilities, will take the trouble to look into your libraries, or into libraries that you may have access to, you will be surprised to find how little you can discover upon the subject of

Borolyptol. It was because I had some knowledge upon that subject, because of my work in connection with Boroglyceride, that I deemed it my duty, in presenting this subject, to deal with Boroyptol in such a way that it would put you upon the track of the literature referred to.

More than that. The course of the medical profession has been such that its members have gone out of their way to use remedies that would not do the work one-half as well as preparations put up for them by manufacturing chemists, with the formula attached. In the present case I dealt with the formula and nothing else. I felt we were dealing with a thing we ought to know more about, and I have presented this paper as a scientific contribution to a scientific body, for scientific discussion.

DR. GEORGE S. WELD, New York.

I want to say just a word. Take for instance various dental preparations on the market which are composed of nothing but alcohol and essential oils. Possibly they may be classed as patent preparations. But it seems to me that any preparation which, like Borolyptol, gives the formula upon the label, is not a patent affair. It may be a proprietary preparation, and possibly some here may be interested in it. I do not think for a moment, however, that Dr. Faught is financially interested in any proprietary preparations. But if a reputable house, with superior facilities, puts up something possesing merit in convenient form and in a scientific manner to be used by dentists, it seems very proper to mention it in a paper such as Dr. Faught has read, without laying the writer open to a charge of advertising. Furthermore, it is a legitimate subject for discussion.

I hold in my hand a bottle of Euthymol, which is a somewhat similar preparation to Borolyptol. I have no financial interest in it; but if I find it to be a good thing I shall feel it quite proper to state it before this or any other society.

The formula is given upon the label.

THE DENTAL SOCIETY OF THE STATE OF NEW YORK.

The twenty-eighth annual meeting of the Dental Society of the State of New York was held at Albany on May 13, 14, 1896, and the attendance was largely in excess of that of recent years, an evidence that interest in Society work is by no means dead, but dependent merely upon the attractiveness of the programme offered.

Dr. H. J. Burkhart, of Batavia, the President, delivered a very able and interesting address, in which he touched upon many points of vital interest to the members, and suggested several reforms in Society management. These were referred to a special committee, who finally recommended their adoption, and they will be enforced during the current year. As Dr. Burkhart was unanimously re-elected, he will be in the position to inaugurate the various changes, and their value will thus be tested.

The correspondent's report was of unusual interest and is of extreme importance, because it is mainly a compilation of the opinions of American dentists practicing in Europe upon the practicability of utilizing the various vitreous materials with which the filling of teeth has been attempted. In European countries there is a deep-seated repugnance to gold in conspicuous places, and there is necessarily a corresponding effort on the part of dentists to supply the demand for a filling which matches tooth substance. The report follows:

REPORT OF CORRESPONDENT.

Mr. President and Members of the State Society:

It is the duty of your correspondent to gather the opinions of practicing dentists upon some matter of interest to the profession at large, and to report at this meeting. This year it occurred to me that, whereas American dentistry claims ascendency over the practice in other parts of the world, there is one method upon which we might receive information, if not instruction, from our brothers across the water.

In this country we have educated our patients to the point where they no longer look upon gold, in the front of the mouth, as a disfigurement, but either as a necessary evil, bearable because all others endure the same infliction, or in many cases as a positive adornment. In this latter respect I regret to say that

many unscrupulous men unhesitatingly crown incisor teeth with solid gold crowns, telling confiding and vain patients that it is the fashion; or in some instances they have even placed gold crowns in which they have inserted flashing diamonds, so that what was once looked upon as a myth in dental practice is now at last a common sight in the metropolis. I recently saw a woman (evidently not a lady), in whose mouth four gold crowns conspicuously showed, two of which were set with diamonds. This is a practice as degrading to the science of dentistry as it is meretricious on the part of the patients.

In Europe a contrary state of affairs exists. The plastic fillings are more in vogue than gold, and hence the dentists of Europe have continued to seek a solution of the porcelain-filling problem, even though such a method could not promise so much as gold. They hope to do better with it than with phosphate or gutta-percha alone.

Recently, I have been led to believe that the Europeans have brought this practice to a high state of perfection, and therefore I essayed to obtain a report of the status of that method of practice.

I addressed the following letter to twenty-five leading practitioners, a few of whom have obligingly replied:

"As correspondent of our State Society, it becomes my duty to report each year upon some important advance in dental science. I have learned that porcelain fillings are much more in vogue on your side of the water than in this country, and therefore I have decided, this year, to ask the leading men among our European *confreres* for an expression of opinion upon this subject. Will you let me have a statement of the results of your experience with porcelain as a filling material? And will you cover the following points? What is your method? To what class of cavities do you limit its use? What cement do you use? How long do the fillings remain in position? Is it a satisfactory substitute for gold, aside from esthetic considerations?"

Dr. William Slocum Davenport, 30 Avenue de l'Opera, Paris, sends the folowing:

"I have found where it is possible to secure an accurate impression of a cavity, that the operation can be made a perfect success, and is a satisfactory substitute for gold aside from esthetic considerations. For large cavities, soft and frail teeth, and for nervous or elderly patients, it is especially useful.

"The impression is obtained by pressing No. 40 crystal (rolled?) gold into the cavity with small pieces of amadon. The gold is burnished to the cavity, and over its extreme edge. It is then removed by inserting a sharp explorer point into gold at

the bottom of the cavity and lifting gently (should the gold be punctured it is immaterial), and invested in a paste of powdered asbestos and water.

"With the impression in this position we remove excess of water with blotting paper, and are then able to fill it about half full of the glass material and bake at once under flame of the blow-pipe, in Cunningham's, Downie's, or any other furnace. Two or three bakings are usually necessary. Cooling after baking is obtained in a few seconds by placing the bottom of the spoon in a few drops of water. The investing and baking require but a few minutes. Try the filling in the cavity first with the gold intact. If necessary, grind off excess of contour and burnish gold at the edge of the filling, which will at the same time break all feather edges from the filling.

"Remove, invest, and heat until the surface takes a polish. This is very important.

"In building up cusps or contour surfaces cover the portion of the filling which is not to be changed, with investing material, then add porcelain as desired.

"The success in this artistic branch of dentistry is in proportion to the perfection of the operation. Fillings which I finished accurately about four years ago are still in every way good. When I relied on cement for badly fitting fillings black and rough edges have resulted, and fillings which required grinding and polishing after cementing have turned dark gray and sometimes nearly black.

"F. Meyer's glass preparation is far superior to any I have used. It flows to the surface of the gold as though it were solder. It makes a hard filling which has a surface like that of an English tooth. Materials made by Cunningham's, Downie's, and Reisert's, also Allen's gum enamel, are most valuable in producing gum color, green-stain, or tobacco teeth. George Poulson's plumbago granite cement is no doubt very good for setting inlays, but undercuts in cavities and grooves in the filling are very necessary. Porcelain filling occupies a position apart, which no other material can fill."

Dr. Isaac B. Davenport writes as follows:

"Obtain an accurate impression of the cavity, No. 40 gold foil, extending the gold over the edge as a guide to contour. Place a portion of the material in the impression, and fuse over the spirit lamp or Bunsen burner. If there is any doubt of the perfection of the impression, try it in with first layer of fused porcelain; and if it rocks in the cavity, the porcelain is broken down and the gold pressed against the wall. Remove, add new material, and fuse again. This method of repeated fusing overcomes the effects of contraction.

"When the filling is perfect in color and form, the gold is peeled off, retention grooves cut with a diamond disk, and it is ready to be set with any cement suitable for setting crowns. The cement should approach the color of the inlay.

"In large or difficult fillings I employ the method described by Dr. W. S. Davenport, investing in the powdered asbestos and water.

"The filling should fit perfectly without grinding. I always fear that a ground surface will absorb organic matter and become discolored.

"The fusing should be perfect each time, but overheating destroys the color. I usually select a shade darker than seems necessary.

"I have fillings which have stood six to eight years; but in some mouths the thin line of cement dissolves out in a year or two and needs replacing. A well-filled porcelain filling set in cement will last much longer than a cement filling in the same mouth.

"I prefer porcelain to gold almost solely for esthetic reasons, and only use it on visible surfaces. I am not convinced that it is a fit material for large compound cavities in biscuspids or molars, unless perhaps in a tooth standing alone.

"Latterly I have set inlays with gutta-percha and am inclined to think this may prove better than cement."

Dr. A. V. Elliot, 10 Via Tornabuoni, Florence, Italy, sends the following:

"After several years' experience I find that for certain cavities this method is eminently satisfactory, especially where the appearance of gold would be unsightly.

"I prepare the cavities as for gold, then fill the undercuts with wax to facilitate the removal of the matrix.

"I use Myer's prepared powder, and form the matrix with No. 60 or 80 gold foil, or gold and platinum, the gold being on one side and platinum on the other. The gold is pressed into the cavity with a small, stiff wad of cotton and afterward burnished. I use Harvard cement, because of its adhesive and other good qualities.

"Though not as permanent as gold, porcelain fillings are more durable than either white fillings or gutta-percha alone, and certainly far more artistic.

"It must be remembered, also, that the ladies of this country, not having reached so high a degree of barbaric civilization as the Americans, are unwilling to have gold pounded into their teeth where it can be seen. Hence, under the law of least resistance, we are under a greater necessity to disguise our work."

Dr. Charles J. Monk, 12 Wilhelmstrasse, Wiesbaden, Germany, writes as follows:

"From my own experience and that of my colleagues whose work I have seen, I am satisfied that porcelain fillings should have a place in the repertoire of every dentist. Where the porcelain is accurately adapted, these fillings I think must be as durable as gold.

"My method is as follows: I obtain the small buttons of porcelain which Ash & Sons supply in various forms and shades,

fit as well as possible and set with carbon cement, mixed thin, grinding and polishing the next day.

"The durability of porcelain fillings depends upon the close joint obtained, so that little or no cement is exposed.

"In the three years during which I have done this work, I have had none come out except in approximal cavities where the facing is porcelain and the lingual surface cement. With these several cases the cement has washed away, porcelain remaining in position, and I have simply added more cement."

Dr. Waldo E. Royce, 2 Lonsdale Gardens, Tunbridge Wells, England, sends me the following:

"English patients strongly object to conspicuous gold fillings. The dental profession has therefore been forced to look for some substitute possibly less durable but more esthetic. Of all these substitutes, whether considered from the point of durability or appearance, I am convinced that porcelain stands first.

"My first operations of this kind were performed about fourteen years ago. I then ground pieces of Ash's teeth to fit the cavity. These operations have proven most satisfactory both to patient and operator, but the time consumed and the consequent fee placed them beyond the reach of most patients. Mr. Dall, of Glasgow, has amplified this method, and at the last meeting of the American Dental Society of Europe showed some very beautiful specimens.

"I next used Richard's glass fillings, and for small cavities I find them reliable. I have made dozens of them, and it takes a sharp eye to detect some that have already stood for about five years. In the mouths of my patients small glass fillings do not change color. I have not been so successful with large ones. I set with Harvard cement, the rough surface of the glass giving a particularly strong hold.

"The cement should also be of a color to match the tooth, and the filling covered like a cement filling with sticky wax. These fillings can be made without leaving the chair, and in less time than is usually required for a gold filling.

"Of the porcelains, I have attained the best results with a body which comes from Dresden. It is worked very much like the glass, but it requires such a high temperature to fuse it that we are instructed to invest the matrix in powdered asbestos, holding in a platinum spoon and fusing with a blow-pipe.

"This method I have found very uncertain on account of the danger of smoking the inlay. I have of late used Downie's furnace with good results. Much should be done by the manufacturers of all these bodies in the way of improving the shades. It is absolutely necessary both for appearance and durability that the porcelain should perfectly fit the cavity. It should therefore only be used in cavities which are easy of access. For such cavities I think it is the coming material, but with our present knowledge of its manipulations it should not be used as a substitute for gold except where its esthetic qualities are essential."

Dr. A. T. Webb, 87 Via Nazionale, Italy, writes as follows:

"I have been using porcelain for inlays and fillings during a period of about four years; at first grinding in pieces, and later adopting the system of burnishing platinum foil to the cavity and building up with bodies. Naturally at first I confined such work to the anterior teeth and buccal surfaces, with considerable satisfaction; but later, with the confidence engendered by closer adaptation, I extended it to include all classes of cavities, and with results which have exceeded my anticipations.

"I have used it in all classes of teeth, both from esthetic and conservative principles. In cases where the showing of gold was unavoidable, in the anterior approximal cavities of the upper bicuspids, I have used the porcelain with so far good results. Some which I did two and a half years ago are in excellent condition, and bid fair to endure for several years. In those teeth where the plastics are strongly indicated, I have found the porcelain of considerable value. By its use the life of an ordinary cement filling is much prolonged.

"From my own experience, and observation of the work done by colleagues, I should say that three years would be a fair average of durability. As to being a satisfactory substitute for gold in select cases, Yes. But for all-around use gold must be awarded the premium as heretofore."

Dr. E. A. Galbreath, Hanover, writes as follows:

"I include under the head of porcelain fillings also those made of glass. I use them only where esthetically anything else would be impossible, as in incisors, cuspids, etc. For restoring corners, I use glass, fusing in the well-known way on platinum-gold foil. For cavities not extending as far as the cutting-edge I use Ash's right and left porcelain rods. They give me great satisfaction. I grind them in—they fit fairly well already—cut them off, set in cement, and then polish. I use Poulson's cement.

"Small glass contour fillings I reset every two years. The cement should be mixed very thin, or the block breaks in setting. Large blocks hold much longer, because the cement can be mixed harder. Of course all cements dissolve, other things being equal, according to the amount of powder incorporated with the crystals (liquid). The durability of porcelain fillings is limited by the durability of the very perishable cement with which they are set, so that in this respect there is no comparison between them and gold fillings. They give, however, my patients and myself so much satisfaction that I am using them more all the time."

Dr. Wilhelm Sachs, Tayentzienstrasse 3a, Breslau, writes as follows:

"I prepare the cavity, leaving sharp edges and no undercuts. I then take an impression of the cavity with Stent's impression material, and make a model with cement filling-material. After hardening, I grind a piece of artificial tooth, or, better, a porce-

lain inlay from S. S. White, suitable in shade, to fit the cavity of the cement model, grinding it a little conical until it will go about half way into the cavity. I then fasten the porcelain piece with shellac to an old broken excavator, and fit it as exactly as possible into the cavity of the tooth.

"I use porcelain for labial surfaces of incisors, cuspids, and first bicuspids; occasionally for mesial surfaces of second bicuspids if first bicuspid is lost. I never use it for restoring a corner of incisors or cuspids when the pulp is alive. I have had many such failures, although in some cases corners will stand for more than ten years. But these are exceptions. When the pulp is dead, I restore the lost corner by taking an artificial tooth, soldering a gold post to the pins, and fitting it to the tooth.

"I use Weston's cement, mixed thin; sometimes Poulson's cement; but this, although it adheres very well to the walls of the cavity, is too sticky, and if not mixed very thin it does not harden thoroughly.

"After porcelain is inserted I leave the dam in place for some time, but grind and polish next day. If you attempt it in the same sitting, often the porcelain will jump out.

"I have a large number of porcelain inlays which have stood now over ten years; but in all cases the porcelain must be surrounded by tooth-substance.

"Porcelain fillings in the right place are a very satisfactory substitute for gold; for esthetic purposes porcelain is the best of all filling-materials.

"I use glass fillings sometimes, taking an impression of the cavity with gold-platinum foil in which I fuse the inlay.

"The glass filling must never extend over the edge of the cavity. If you grind surplus off, you get a porous surface which will discolor in some mouths. Glass fillings are very satisfactory, if you make them so perfectly that the upper glossy surface is just level with the tooth surface, so that no grinding at all is required. If the glass filling is properly done, it will stand a long time. I have about twenty cases which I have watched for about seven years, and they are in good order. The glass filling must be fastened with very thin Weston's cement.

"I do not think glass and porcelain fillings are used more extensively in Germany than in America. Only few first-class dentists will take the trouble to make glass or porcelain fillings, as the time required for it is about four or five times as great as for a gold filling."

Dr. William Mitchell, 39 Upper Brook street, London, W., England, writes as follows:

"Personally I have had comparatively but little experience in that class of operations, for the reason that it has not appealed to me as a reasonably perfect operation in the majortiy of cases where undertaken; this conclusion being arrived at from personal experience, but more especially from observations of operations of others who demonstrated by their attempts that they had had considerable practical experience with this line of operations.

"As a rule, I have found the inlay method the most successful in my hands—*i.e.*, selecting a piece of porcelain of the desired shade and grinding this to shape; this, when set in position, can be contoured and finished flush with the tooth, and given the requisite degree of polish. In this conection I would say English teeth are the best adapted to this class of work, owing to their uniformity of texture and the way they can be polished after the vitreous surface is removed. I would like to mention here the enamel-rods of various shades and sizes devised and prepared under the instructions of Mr. Dall, of Glasgow, who has devoted a great deal of time and personal effort to perfect a system for this kind of work, and who deserves the heartiest thanks from our profession for his untiring energy in this direction.

"I have done but little with porcelain fillings, and the best results in my hands as to shades and shapes leave much to be desired. While it is possible to approximate the desired color, the least fluctuation of heat will spoil an otherwise fair operation. I say fair advisedly, for I have but rarely seen a good one—*i.e.*, one that I would wish in my own mouth or consider a specimen operation, considered in all its points as compared with a gold filling.

"This has special reference to porcelain fillings as distinguished from inlays. The class of cavities to which I have confined my efforts are erosions, abrasions, and carious cavities upon the labial surfaces of the anterior teeth. The operation as to the two former is practically alike. The cavity is prepared very much the same as for a gold filling, except that the margins are left as nearly perpendicular as possible—*i.e.*, at right angles to the floor of the cavity, instead of beveled as in a gold filling. The piece of porcelain is then ground to fit. This requires an amount of precision rarely given to this operation, for upon the degree of approximation depends the result. The eroded or abraded cavities are irregular in shape, and frequently require much time in the operation of restoring lost tissue, but the results will repay all time and care bestowed in this direction.

"A method used by my brother, Dr. L. J. Mitchell, possesses many advantages, although the operation involves much time and considerable ability to produce the best results. The process is as follows: Given a case where the loss of tissue involves nearly the whole face of a tooth, the edges are to be as well defined as possible; the incisive end of the cavity is to be undercut by running an inverted cone bur transversely in the cavity, while the cervical portion is to be prepared as for a gold filling. The piece of porcelain is then fitted with the incisive end beveled to fit in the undercut, while the cervical portion is beveled in like manner. After the filling is perfected, and after applying the rubber-dam, the piece of porcelain is cemented in place. After the cement has become perfectly hard, that along the cervical margin is cut away from the retaining groove, as well as any that may be along the cervical bevel of the piece of porcelain. The retaining groove is then filled with gold, which is carried over the bevel on the porcelain; the whole is then harmoni-

ously contoured to the required shape and polished. The inlay is then held in place most effectually, and an extremely neat operation is the result.

"When a very thin piece of porcelain is used and cement alone depended upon for its retention, it is very prone to loosen, owing to the porosity of the porcelain being accentuated through the removal of the vitreous surface during its preparation, or its subsequent grinding down when *in situ*. This permits of the oral fluids penetrating it, and disintegrates its union with the cement, which eventuates in the early failure of most of this work. When possible, as in the case of caries on the labial surfaces of the teeth, the cavity is made circular, the piece of porcelain is mounted with shellac, or preferably sealing wax, upon one of the metal mandrels suggested by me some years ago (and now obtained at any dental depot). This after close approximation upon a diamond disk, the mandrel being run in the engine; the piece of porcelain can then be ground into the cavity by the aid of very fine pumice powder and water. This will make an inlay necessitating the minimum amount of cement, which is a benefit in all cases, as I believe the less cement required the better the operation and the more certain the result. Where possible, retaining grooves should be cut along or around the inlay a short distance from the surface. This may be easily done with a diamond disk. This facilitates the adhesion of the cement. I have set a few inlays with gutta-percha, Hill's stopping and Jacob's gutta-percha being about equally used; the latter seems to be the most satisfactory. Any fine-grained, quick-setting cement will do for this work, provided the shade approximates as near as possible the color of the natural tooth; otherwise the absence of translucency incidental to this work will be accentuated. Of the comparatively few operations I have done, I am well satisfied as to their durability; the artistic side, I think in most cases, left something to be desired. Esthetic considerations being put aside, I consider a good gold filling far and away the best thing where the patient's personal appreciation of the operation supplements hygienically the ability and devotion shown by the dentist."

Dr. Jenkins, of Dresden, writes that he believes that his most recent discoveries in connection with low-fusing porcelains bring the work to a high state of perfection, but that until he has tested some of the details of his present method a little longer he prefers not to publish. From what I have heard of the work done by Dr. Jenkins, I am satisfied that his statement is correct, and the method which I have myself followed is his method as it has been described to me.

Before giving my own views on this subject, I wish to call attention to the fact that even in Europe, where porcelain or glass fillings are more in vogue than in this country, the dentists admit that gold is a more permanent reliance, and that esthetic considerations explain the demand for porcelain.

In my hands the method has proven neither so satisfactory nor so simple as its advocates in this country have undertaken to claim for it. While it is true that the porcelain may be fused in a few minutes, it is also true that to make a perfect filling may require an hour or more for a cavity which could readily be filled with gold in half the time. Of course, constant practice, coupled with experience, will give the practitioner an acquired skill which will enable him to fill with porcelain more rapidly than with gold, where the cavity is extensive. I will give a brief outline of the method which I have followed, and record the obstacles with which I have met.

If the process is to be limited to labial surfaces of the anterior teeth, it is evident that the demand for the filling would be comparatively infrequent. Therefore let me consider an approximal and grinding-surface cavity in the anterior of a first bicuspid. The matrix is made with No. 30 rolled gold. This is preferable to 40 or 60, because it takes a sharper impression. To obtain this matrix is most difficult. It is very simple for the advocate of the method to say "make the matrix," and then pass on to the methods of fusing the porcelain. But the dentist will discover that many attempts to obtain a perfect matrix from an approximal cavity will prove abortive before one will be removed which is absolutely accurate, and if not absolutely accurate it is worthless. Practice has taught me that the cavity must be shaped so that, in the class of cavity which I am describing, the matrix may be withdrawn through the opening at the grinding-surface. The gold is folded in half, forming a V-shaped trough, and is passed into the cavity. Then proceed to fill the cavity with small pieces of spunk, holding the pieces in position with a small ball burnisher. No great pressure should be attempted until the cavity is practically filled, otherwise the gold will be torn, which in my experience *does* make a difference, and therefore should be avoided. The gold is burnished over the edges of the cavity with spunk, used with a wiping motion. To remove the matrix, take out all of the spunk, and then "tease" the matrix out. By this expression I mean that the matrix is to be tapped gently along the edges, and manipulated with great care until it drops out of itself. Any forcible removal will alter the shape.

The powder is mixed with water and placed into the matrix, when excess of water is extracted with bibulous paper. For the first baking fill about half full. Fuse thoroughly. Then add material, and fuse again, until the desired shape is obtained. Here occurs a step which is original with Dr. Jenkins. The filling be-

ing complete, he lays over it a bit of blown glass, and again fuses, the melted glass flowing down smoothly and forming a glazed or enamel surface of great beauty.

The main difficulty with this method is in connection with the cement. Before cement is used, the filling placed in the cavity is perfection itself, and if the color has been accurately imitated, it would be impossible for human eye to detect the outlines of the filling. But the insertion of the cement changes all this. When it is remembered how thin was the matrix, it will be recognized that no cement now on the market can be mixed thin enough to fill the space occupied by the gold, and consequently the filling is lifted from its proper position by the interposition of the cement, and an edge shows. To overcome this I have essayed the following method: After making the filling, grind away a considerable portion with a corundum, being careful not to touch the extreme edge. This makes space for the cement, and by roughening the surface of the porcelain allows the cement to stick better. Place cement in the cavity, not on the filling, and in a very small quantity. Press the filling to place, and if any cement oozes out, remove the filling, quickly cleanse the edges, and as quickly return it to place. In this manner I have inserted a few fillings which have quite satisfactory edges.

At first, as advised, I used Harvard cement, and I had great difficulty. The fluid is so thick that the mixing to a thin consistence is well-nigh impossible; moreover, the setting is so slow that the fillings would come out in a few days, undoubtedly the fluids of the mouth having disintegrated the cement before fully set.

I have fillings in, which have remained for six or eight months, and which are still doing well, which I inserted with Dawson's cement. The best cement will be that one which is of fine grain, and which sets moderately slowly. Then it is best, after setting the filling, to have the patient remain in the office with dam in place, for half an hour or longer.

At the present stage of this process, I can recommend and even advocate it in accessible positions, where the question of time and fee are of less consideration to the patient than personal appearance. But my own experience, even with the wealthy of this country, leads me to the belief that, ordinarily, Americans will prefer gold.

In inaccessible places the gold must be our reliance, and I have little faith in porcelain for contouring corners.

RETAINING ARTIFICIAL DENTURES IN THE MOUTH.

By Joseph Spyer, M. D., D. D. S.

It is now nearly forty years since I began to practice dentistry, having commenced in 1857, and during that period I have introduced various methods for the retention of artificial dentures in the mouth. The air chamber which has been so long in vogue has never seemed to me to meet the requirements.

As far back as 1861 I used in my practice, with a moderate degree of success, a gold plate made in two parts; the first plate, which held the teeth, being of solid metal and very narrow, to which was attached on its inner side a second plate, perforated with numerous small holes, thus causing the denture to hold in the mouth by capillary attraction.

In 1862 I discovered a method for retaining rubber plates, which was also used with varying success. It comprised making a square groove on the plaster model, about an inch back of the alveolar ridge, up to which square groove, which was possibly an eighth of an inch in width, the model was trimmed away. After the plate was vulcanized, there was on its inner edge, on the palatal side, a narrow projection corresponding to the square groove made in the model, a sort of narrow ridge elevated above the surface of the plate, which produced a suction.

In 1885 I introduced the surface cohesion forms, which consist of a thin sheet of block tin, having small rounded depressions. This is placed on the plaster model, and, after vulcanization, the entire plate is found covered with small rounded projections on the palatal side, which hold it firmly in the mouth.

But I was not entirely satisfied, and in 1894 I invented the automatic suction cavity, which consists of sheet block tin stamped out to represent a form of suction running the entire length of the plaster model. It makes possible the use of a very narrow plate. The block tin form, which makes the cavity, has two narrow, parallel slots throughout its entire length, which produce on the palatal surface of the plate two corresponding parallel ridges, in addition to the suction form.

My latest method for retaining artificial dentures in the mouth, the Adhesive Plate, I believe approaches the ideal. It causes the denture to adhere firmly in any mouth, hard or soft, high or flat, imparts a soothing sensation to the gums and mucous membrane, and prevents the irritation which arises from the hard rubber pressing upon soft tissues.

Many attempts have been made to provide a soft or elastic base for hard-rubber plates, in order to render them adhesive; but it has been found that the soft-rubber lining, or base, soon rots, thus leaving the denture practically worthless.

My invention overcomes this objection. I have discovered that with certain gums, found in South America, an adhesive plate can be made which will not deteriorate. It adheres firmly in any mouth, and at the same time provides a soft and elastic connecting medium, comforting to the gums and mucous membrane.

Dr. C. C. Richardson, of New York city, and many others among my colleagues, have succeeded by their employment in making dentures hold firmly in mouths where an ordinary hard-rubber plate would not serve at all.

The method of its use is very simple: After the case is flasked and packed, the Adhesive Plate is placed on the palatal surface of the plaster model, and the case vulcanized in the usual way. After vulcanization the Adhesive Plate will be found to be incorporated with the rubber on the palatal side.

My many years of practical experience in the insertion of artificial dentures in difficult mouths has demonstrated that my Adhesive Plate is superior to every other method for retaining artificial dentures in the mouth.

The Greek surgeons never take a stitch in a wound if they can help it, for there is a little insect which will do it for them. The black ant is a vicious fellow, and when his mandibles catch hold of anything he hangs on to it with the obstinacy of a bulldog. When the surgeon has drawn the edges of the wound together he takes one of these black ants from a box, which he always carries about his person, with a pair of forceps, and the ant resents the intrusion by getting mad and grabbing the first thing he can find. The surgeon sees to it that it comes in contact with the edges of the wound, and the ant, with a grip that would surprise you, takes hold. Then the surgeon cuts off the fellow's head, for fear he will let go, which is never done after he is dead. When the ant is defunct the mandibles do not relax in the slightest. All that is very odd and very interesting. But the time has not yet come when the black ant can be made useful in this country for that purpose.

NATIONAL ASSOCIATION OF DENTAL FACULTIES.

The thirteenth annual meeting of the National Association of Dental Faculties was held at the Grand Union Hotel, Saratoga Springs, commencing August 1st, 1896.

The following colleges were represented:

Birmingham Dental College—T. M. Allen.
University of Denver, Dental Department—W. E. Griswold.
Columbia University, Dental Department—H. C. Thompson.
National University, Dental Department—J. Roland Walton.
Atlanta Dental College—Wm. Crenshaw.
Southern Medical College, Dental Department—Frank Holland.
Chicago College of Dental Surgery—T. W. Brophy and Louis Ottofy.
Northwestern College of Dental Surgery—L. L. Davis.
Northwestern University Dental School—Theo. Menges and Geo. H. Cushing.
Indiana Dental College—G. E. Hunt.
Louisville College of Dentistry—Francis Peabody.
Baltimore College of Dental Surgery—B. Holly Smith.
University of Maryland, Dental Department—F. J. S. Gorgas.
Boston Dental College—J. A. Follett.
Harvard University, Dental Department—Thos. Fillebrown.
University of Michigan, Dental Department—J. Taft.
Detroit College of Medicine, Dental Department—G. S. Shattuck.
University of Minnesota, College of Dentistry—Thos. E. Weeks.
Kansas City Dental College—J. D. Patterson.
Western Dental College—D. J. McMillen.
Missouri Dental College—A. H. Fuller.
University of Buffalo, Dental Department—W. C. Barrett.
New York College of Dentistry—Frank Abbott.
Cincinnati College of Dental Surgery—W. T. McLean.
Ohio College of Dental Surgery—H. A. Smith.
Cleveland University of Medicine and Surgery, Dental Department—S. B. Dewey.

Western Reserve University, Dental Department—H. L. Ameber.

Pennsylvania College of Dental Surgery—C. N. Peirce.

Philadelphia Dental College—T. C. Stellwagen and S. H. Guilford.

University of Pennsylvania, Dental Department—E. C. Kirk.

University of Tennessee, Dental Department—J. P. Gray.

Vanderbilt University, Dental Department—H. W. Morgan and W. H. Morgan.

University College of Medicine, Dental Department—L. M. Cowardin.

Royal College of Dental Surgeons of Ontario—J. B. Willmott.

The following colleges were elected to membership:

Howard University, Dental Department, Washington, D. C.—James B. Hodgkin.

Marion Sims College of Medicine, Dental Department, St. Louis, Mo.—J. H. Kennerly.

Dental Department of Tennessee Medical College, Knoxville, Tenn.—R. N. Kesterson.

The following applications for membership were reported favorably by the Executive Committee for final action next year:

University of Omaha, Dental Department, Omaha, Neb.; Ohio Medical University, Dental Department, Columbus, O.; Baltimore Medical College, Dental Department, Baltimore, Md.; Dental Department Milwaukee Medical College, Milwaukee, Wis.

The New York Dental School announced its intention to complete its application next year.

The report of the Secretary stated that there were in the United States fifty-three institutions teaching dentistry or conferring the dental degree, as follows: Dental schools in active operation, forty-six; organized during the year, two; in course of organizaion, one; corporations conferring the dental degree, four. Of the dental colleges, thirty-six were now members of the Association, eight had applications for membership pending, two had signified their intention of applying, and the two newly organized have announced in their catalogues their intention to comply with the rules of the Association.

The report of the Committee on Schools, presented by its Chairman, Dr. Follett, stated that reports had been received from thirty-five schools as to their equipment under the resolution

adopted last year. These reports showed that the schools were well provided with lecture-rooms, and in most instances with ample laboratory and dispensary accommodations, with sufficient and appropriate appliances. They indicate a broadening in the general course of instruction, as well as fuller courses in all departments. Several colleges have recently added courses in bacteriology and extended their work in histology and pathology in practical ways. During the year 1895-1896 the number of matriculates at the thirty-five colleges reporting was 5,532; graduates, 1,363.

Mr. Melville Dewey, Secretary of the Board of Regents of the University of New York, appeared before the Association by invitation of some of the members, and gave a masterly address on the needs of the movement for higher education in professional ranks. Incidentally, Mr. Dewey explained some of the details of the system pursued in New York, and stated that, greatly to the surprise of those in charge of the various professional educational institutions in the State, the number of students had steadily increased since the higher requirements had been put into force by the Board of Regents.

Among the more important legislation enacted by the Association were the following:

REGULATING THE ADMISSION OF STUDENTS.

Preliminary Examination.

The following preliminary examination shall be required of students seeking admission to colleges of this association:

———— HIGH SCHOOL.
———— 189

To the Faculty of ————

M —— —— desires to present —self as a candidate for admission to the Course of Dentistry, —— ——

He has pursued in this school the branches against which numbers appear —the numbers being the standings upon a scale of 100. Our course requires five recitations or exercises weekly, in each branch. Our terms are ten weeks in length.

PRELIMINARY

2 terms Orthography, standing.	2 terms Grammar.
2 terms Reading, standing.	2 terms History U. S.
2 terms Writing.	—
2 terms Arithmetic.	14
2 terms Geography.	

These are required in all cases, and fourteen counts given for the same.

ELECTIVE.

3 terms University Algebra, through Quadratics.	1 term Commercial Arithmetic.
	2 terms Astronomy.

3 terms Geometry, plane and solid.
2 terms Physiology.
2 terms Physical Geography.
1 term Botany, with analysis of forty plants.
3 terms General History.
3 terms Natural Philosophy.
3 terms English Literature.
2 terms Civil Government.
2 terms Rhetoric.
2 terms History of England.
3 terms American Literature.
3 terms Chemistry.
2 terms Geology.
2 terms Natural History
1 term Political Economy.
2 terms Drawing.
3 terms German.
3 terms Greek.
3 terms Latin Reader, Cæsar.
3 terms Cicero, four orations.
3 terms Virgil, six books.
1 term Book-keeping.
3 terms French.
2 terms Manual Training.

(After session of 1901–1902 U. S. History becomes elective, and entitles to 2 credits.)

FOR THE SESSION OF 1897–98.

Preliminary	14 couuts.
Elective	18 counts.
Total	32

FOR THE SESSION OF 1898–99, 1899–1900.

Preliminary	14 counts.
Elective	27 counts.
Total	41

FOR THE SESSION OF 1900–01.

Preliminary	14 counts.
Elective	36 counts.
Total	50

For the session 1901–1902 and thereafter no preliminary credits; forty-eight credits from the studies classed as elective.

When the text-book mentioned has not been completed, the exact amount of work done should be stated.

The candidate above named is recommended as of good moral character, studious habits, and, judging from the past records, able to carry forward the work of a dental college course.

The rules for the admission of students take effect with the session of 1896–97.

——— ———, Principal.

ADMISSION TO ADVANCED GRADES ON CERTIFICATES.

The colleges of this association may receive into the advanced grades of Juniors and Seniors only such students as hold certificates of having passed examinations in the studies of the Freshman or Junior grades respectively, such certificates to be pledges to any college of the association to whom the holders may apply that the requisite number of terms have been spent in the institutions by which the certificates were issued.

INTERMEDIATE CERTIFICATE.

Place Date

This certifies that ———— has been a member of the ———— class in the ———— during the term of ————

He was examined at the close of the term in the required studies, as stated herein, and is entitled to enter the

Freshman Year.	Junior Year.
[List of Studies.]	[List of Studies.]

This certificate shall by correspondence be verified by the dean of the college by which it was issued. Without such certificate no student shall be received by any college of this association for admission to the advanced grade, except on such conditions as would have been imposed by the original school, and these to be ascertained by conference with the school whence he came.

LIMITING THE TIME FOR THE RECEPTION OF STUDENTS.

No member of this association shall give credit for a full course to students admitted later than ten days after the opening day of the session, as published in the announcement.

In case one is prevented by sickness, properly certified by a reputable practicing physician, from complying with the foregoing rule, the time of admission shall not be later than twenty days from the opening day.

In cases where a regularly matriculated student, on account of illness, financial conditions, or other sufficient causes, abandons his studies for a time, he may re-enter his college at the same or subsequent session; or where, under similar circumstances, he may desire to enter another college, then, with the consent of both deans, he may be transferred, but in neither case shall he receive credit for a full year unless he has attended not less than seventy-five per cent. (75 per cent.) of a six months' course of lectures.

ATTENDANCE, EXAMINATIONS.

Attendance upon three full courses, of not less than six months each in separate academic years, shall be required before examination for graduation. The year shall be understood to commence August 1st, and end the following July 31st.

Beginning with the session of 1896–1897, the examinations conducted by the colleges of this association shall be in the English language only.

A student who is suspended or expelled for cause from any college of this association shall not be received by any other college during that current session. In case the action of the first college is expulsion, the student shall not be given credit at any time for the course from which he was expelled. Any college suspending any student shall at once notify all other members of this association of its action.

APPLICATIONS FOR MEMBERSHIP.

Applications of membership in this association shall be made in writing, favorably indorsed by the faculties of two or more colleges of the association and the Board of Dental Examiners of the State in which it is located.

Such application shall then be referred to a special committee of three, which shall be appointed by the chair upon each application. The duty of this committee shall be to visit the school applying during its session, personally examine its facilities for teaching, methods of instruction, and efficiency of the faculty, and report to the Executive Committee, which report shall, if favorable, be acted upon.

Each application shall be accompanied by a sum of money sufficient to defray the expenses of the special committee.

The constitution was so amended that hereafter it will require a two-thirds vote instead of a majority to elect new members.

The following resolution, offered by Dr. Peirce, was on motion adopted:

WHEREAS, In view of various reports frequently being circulated derogatory to the character of certain schools without any one being willing to prefer charges sustaining such statements,

Resolved, That the Executive Committee be and is hereby authorized to exercise full power to investigate all such innuendoes or charges by visiting the school or schools, or authorize some one to perform this duty; summoning witnesses, etc., in order that all such statements shall be sustained or proven false.

Resolved, That a sum to be determined by the officers, President, Secretary and Treasurer, be and is hereby appropriated for the purpose of paying expenses essential to the carrying out of the provisions of the above resolution.

The following communication from the National Association of Dental Examiners was read, and on motion adopted:

Resolved, That this association requests the National Association of Dental Faculties to enact a rule prohibiting colleges from receiving beneficiary students recommended by State Boards and Associations.

The following, offered by Dr. Abbott, was adopted:

Resolved, That the committee of three appointed by the chair to report on applications for membership shall determine and report to this association at its next meeting the minimum requirements of such colleges as desire to become members of this association as to length of course, plant, equipment, facilities for teaching, and the number and efficiency of its faculty.

Dr. Brophy offered the following, which was adopted:

Resolved, That a graduate of a recognized dental college, who applies to a college of this association for the degree of Doctor of Dental Surgery or Doctor of Dental Medicine, shall complete one full course of instruction in said college and comply with all other requirements of the Senior class.

The following, offered by Dr. Barrett, lie over till next year for final action:

Resolved, That after the regular session of 1897–98 the annual college term for the members of this association shall be seven full months.

Resolved, That it is advisable that the National Association of Dental Faculties in future meet in connection with the National School of Dental Technics at a time of year when the colleges are in session, and before the time for the issuance of the annual catalogues.

A committee, consisting of Drs. Patterson, H. W. Morgan, and Kirk, appointed to consider the advisability of adopting the academic cap and gown for commencement day, reported in

favor of adopting the intercollegiate system, and in favor of lilac as the distinguishing color for dental schools. Laid over till next year.

The following were elected officers for the ensuing year: J. P. Gray, Nashville, Tenn., President; Truman W. Brophy, Chicago, Ill., Vice-President; Louis Ottofy, Chicago, Ill., Secretary; Henry W. Morgan, Nashville, Tenn., Treasurer; J. Taft, Cincinnati, Ohio, Thomas Fillebrown, Boston, Mass., and B. Holly Smith, Baltimore, Md., Executive Committee; H. A. Smith, Cincinnati, Ohio, Thomas E. Weeks, Minneapolis, Min., and J. D. Patterson, Kansas City, Mo., *ad interim* Committee.

The newly-elected officers were installed, and the President announced the standing committees, as follows: S. H. Guilford, Philadelphia, Pa., J. B. Willmott, Toronto, (Canada), Theodore Menges, Chicago, Ill., L. M. Cowardin, Richmond, Va., and James Truman, Philadelphia, Pa., Committee on Text-books; J. A. Follett, Boston, Mass., G. E. Hunt, Indianapolis, Ind., C. N. Peirce, Philadelphia, Pa., A. H. Fuller, St. Louis, Mo., and D. J. McMillen, Kansas City, Mo., Committee on Schools.

Adjourned.

OUR QUESTION BOX.

QUERY:—Suppose a tooth has ached slightly, and whilst excavating with the dam in position, the pulp is found slightly exposed so that it bleeds a little, but appears healthy—(1) *Would you cap, if so, with what?* (2) *Would you fill over such a cap, if so, how soon after?* (3) *Have you ever capped such an exposure, filled the tooth, and subsequently removed filling and capping, finding the pulp still living?* (4) *In your experience, what percentage of success have you had in capping healthy exposed pulps, and on what do you base your estimate?* (5) *Does the youth or age of patient interfere?* Note that this query refers to healthy pulps. If the evidence is against success in such cases, it would be folly to attempt capping diseased pulp tissue.

ANSWERS—(1) I am not now so favorably disposed towards capping pulps, even when the case is such as is indicated by No. 1 of the query. (2) I do not think I would put in a permanent filling *immediately* over such a cap; would rather wait for developments. I would prefer to wait a year before filling over a capping. (3) I have capped such an exposure and filled the tooth. At a subsequent refilling found the pulp dead; and in another case found the pulp alive. (4) My experience is greatly against capping pulps. At one time I advocated the operation, but found that the percentage of failures was so considerable that I have for some years given it up, almost entirely. (5) I incline to the belief that the age and character of the patient has much to do with the success of the operation. Men and women with dense, strong, hard, yellowish teeth, may have healthy exposed pulps successfully capped. I do not recall having attempted the operation for a young person. *Theodore F. Chupein, Philadelphia.*

The method of procedure would depend on the age, sex and general health of the patient. If the exposure was in a recently erupted and incompletely developed tooth, for obvious reasons I should attempt to preserve its vitality. I do not consider that any pulp once exposed, even though rendered comfortable and comparatively easy should be designated as a healthy pulp. I should be tempted to cap same if the patient presented a generally healthy appearance; but in females should be more uncertain of success than with males. Should place a small amount of oxide of zinc moistened with creosote or carbolic acid on exposure, to which would add oxyphosphate of zinc mixed very thin to avoid pressure. Should fill permanently after two weeks if no pain intervened. Have had to remove such fillings on account of the sensitiveness of the tooth. The percentage of success would depend entirely upon how long after operation was performed the successes or failures were estimated. If six months, possibly eighty or ninety per cent.; if two years, I don't think more than fifty per cent. Think sentiment and false doctrines have stimulated us to attempt capping, while experience leads us to be very wary of the operation. *John I. Hart, New York.*

(1) Yes; usually with oxyphosphate after first applying a coating of oxide of zinc. (2) Would fill immediately if there were no inflammation. (3) No; I have, however, examined many such cases, even several years after so treating, and have found them sensitive to thermal change and of unchanged color. (4) Have no definite data on which to base an estimate; I am sure, however, that but a small percentage fail. (5) I think youth adds to chances of success. *Alfred S. Hill, Boston, Mass.*

(1) Yes; with some non-conducting and non-irritating material. (2) Over my cap I prefer to fill with a cement for awhile—say a few months. (3) Yes. (4) Cannot guess near enough to allow it to go on record. (5) Yes. *A. H. Gilson, Boston, Mass.*

(1) The age and physical condition of the patient would have much consideration. Generally speaking, if the patient was past middle age I would destroy the pulp. If the person was anemic or in any low form of chronic debility or disease, I would prefer destroying the pulp rather than attempting its salvation. If the cavity was difficult of access and the point of exposure quite out of the range of direct vision, I would hardly consider it a hopeful case for capping. Within these limits I would certainly cap, and would expect in a large majority of cases a successful result. I would probably use some oxyphosphate cement mixed quite soft, but circumstances would alter cases; and a delicate hand and careful manipulation would in a general way be stronger factors for success than the kind of material used. The essentials are to avoid pressure on the pulp and use nothing escharotic. (2) I would fill over the capping after any reasonable interval—say of a few days; I would be guided in the choice of a material the same as if it were a simple cavity. (3) I have found the pulp living in several such cases. (4 and 5) Are answered above.

Chas. F. Allen, Newburgh, N. Y.

(1) I would cap a healthy pulp if conditions were favorable with oxide of zinc and carbolic acid. (2) Would fill over capping with oxyphosphate for six months or a year; then would fill over oxyphosphate if the history and conditions would favor doing so. (3) I have; and removed filling after a year and found pulp alive and healthy, giving no trouble in the meantime. (4) I don't know what percentage; nearly all my pulp cappings have been failures. I think the percentage in healthy pulps would be favorable to capping; the trouble is to know when pulps are healthy. In nine-tenths of exposures the pulps are not healthy, and I should say my failures have been in about that proportion. I think the health of the patient has much to do with it, and no doubt the age also. I think many exposed pulps could be made healthy if the dentist and patient would have patience to wait and submit to antiphlogistic treatment.

A. F. Davenport, North Adams, Mass.

(1) Yes; with sandarac varnish. (2) Yes; with oxyphosphate as soon as the varnish is dry. (3) Yes; and the opening was closed. (4) This is an impossible question for a novice to answer with any degree of accuracy. (5) Have had no experience with those under eighteen or over thirty years of age. *J. M. Ovenshire, New York.*

We almost never find an exposed pulp healthy. I have tried to save many exposed pulps by capping, but believe I have usually failed. I now devitalize and remove. *Albert G. Weed, New York.*

(1) Should cap in every such case. As soon as the bleeding ceases, which should be quickly in the case of a healthy pulp, I fill the cavity with a plug of cotton filled with an aqueous solution of hydronapthol 1 to 300, for the purpose of effecting disinfection. This is allowed to remain for a few moments, while the capping materials are being made ready. The cavity is then carefully dried, the least compression being avoided. The point of exposure should then be touched with carbolic acid—90 per cent. carbolic acid and 10 per cent. alcohol. The cap I prefer to be of platinum, which should be of a size to cover well beyond the area of exposure. These caps are punched out of platinum plate No. 30; pounding giving the concavity of form. The selected cap is filled to convexity with a paste composed of oxide of zinc, mixed with equal parts of carbolic acid and oil of cloves, to a consistency which will allow it to maintain the convexity, and yet it must be so yielding that it will flow out on the sides of the cap as it is put in place, without making pressure upon the pulp. In placing the cap over the pulp it should be laid to catch first at one edge and then carefully laid down, when some of the parts should flow out laterally. The assurance should be had that the cap is against the dentine. It would be well to state that in excavating the cavity all carious matter, in my opinion, should be removed; and this should be done without wounding the pulp. (2) My practice is to fill the cavity in such a case at once, as the longer it remains open the greater is the danger of infection and of consequent inflation. My fillings are usually non-conductive, or are made so. (3) My experience on pulp capping has been very extensive, and for many years. I have very frequently performed the described operation and have opened the cases at periods of from two years to fifteen years, finding the pulp living and in healthy condition. (4) It is out of my power to give you percentage of success in capping healthy pulps. I have not kept that careful tabulation of cases which would enable me to give ratios of success. In simple cases, like the kind in question, the conditions of general health being favorable, and there not having been previous pain, I would naturally expect successful results. I am, from my experience in this class of cases, forced to state that no condition would induce me in devitalize at the outset. (5) In reference to this query, neither youth nor age appears to qualify the result. The interfering conditions are those of low systemic tone, and generally the lymphatic temperament is unfavorable. There is also stability in persons of this temperament to changes of pulp tissue which have been slowly going on during the period of exposure, this class of persons suffering less from acute pain than others; and on the other hand being less responsive to treatment. Finally, it should be stated that in all cases of attempted conventional treatment of the pulp, careful observation must be made of the previous history of the case, to learn whether it may not have been the origin of subjective disturbances.

Louis Jack, Philadelphia.

(1) I would cap with asbestos slightly moistened with Robinson's remedy. (2) I would fill immediately. (3) Have frequently capped such exposure and have found the pulp living, and sometimes have found it dead. Success is more likely with the young and healthy.

C. S. Stockton, Newark, N. J.

(1) Depends upon temperament, condition, etc., of patient. Typical cases cap with the foil dipped in oil of cloves, flowing over cap chloropercha, and flowing over that a cap of oxyphosphate, and then fill after latter is hard, having previously removed all foreign substances, and cut clean to healthy bone, washing cavity with warm water or listerine and wiping cavity with cotton dipped in a mixture of 20 grains of iodoform to 1 ounce of oil of eucalyptol. (2) As a rule, immediately. (3) Never been obliged to remove filling under this treatment, used for one year. (4) Study of temperament, careful diagnosis, antiseptic treatment and regimen. (5) Prefer youth. *Albert Westlake, Elizabeth, N. J.*

(1) If the conditions of age, temperament, general condition of health, quality of tooth, and extent of decay are favorable, yes—not otherwise—with a small piece of court plaster. (2) A temporary filling of oxyphosphate of zinc; no metallic filling under two years. (3) Don't remember that I have. As long as the tooth showed no sign of death of pulp I would not be likely to monkey with it to find out. (4) Have no accurate data, but am not infatuated with capping in general; think that a large proportion fail when the pulp is once *actually exposed*, and therefore attempt it in only the most promising cases. (See query 1.) (5) Think that cases under eighteen or twenty years of age more likely to die.

D. W. Barker, Brooklyn.

(1) Yes; with carbolized vaseline and one of Dr. Teague's concave caps. (2) Yes; immediately (3) Yes, many; but a piece of heavy sand paper was used instead of Dr. Teague's prepared caps. (4) About 75 per cent. (5) Extreme youth or age will lower the percentage.

H. E. Van Horne, New York.

(1) Would not cap if tooth had ached; tried it a few times but lamentably failed to make it a success. If the tooth had not ached would remove all decomposed matter, gently and carefully cleanse cavity, touch lightly with spirits of camphor, dry carefully and flow solution of gutta-percha in chloroform. After waiting until chloroform had evaporated sufficiently for gutta-percha to harden, would flow thin solution of oxyphosphate in a few minutes, followed by entire filling of oxyphosphate of zinc. I carefully inspect gums for a reasonable time, using counter-irritant treatment—aconite and iodine preferable. (2) Do not fill tooth permanently for a year or so. (3) Yes. (4 and 5) Have rarely failed where patient was under thirty years of age. *L. A. Brown, Leesburg, Va.*

(1) Would cap every time, using asbestos felt touched with nervine vitæ, or carbolized resin. (2) Yes; at the same sitting. (3) Have capped and filled several; never had occasion to remove filling that I am aware of. If they had to be removed some other dentist has done it. (5) My experience has only been with patients from eighteen to forty-five, and in the best of health. Perhaps our Canadian climate, with its healthy bracing air, may have something to do with cases of this kind. I doubt whether it might be as successful with a delicate patient residing in an unhealthy or malarial district. *D. V. Beacock, Brockville, Canada.*

(1) Don't cap an exposed pulp which has ached. More promise of comfort in root filling. (4) Probably one-fourth of apparently healthy pulps are painful or uncomfortably sensitive to thermal changes. (5) Age

is an important factor. Would cap for young persons; when for maturer years would devitalize. *D. D. Lester, Christiansburg, Va.*

(1) Yes; cover first with dissolved gutta-percha, then flow oxyphosphate mixed very thin over it; fill full if you desire to. (2) Yes; have done so immediately many times. How soon after, depends on vigor and health of patient; prefer waiting a few days usually—sometimes weeks. Many times have covered with gold or amalgam immediately, but prefer not to. (3) Yes; have capped the same nerve as many as three times, and have met with success; have removed caps that my preceptor, Dr. Taylor, put in years ago (same manner) and have found pulp healthy and covered with bone, and have malleted gold down over it. (4) Healthy pulps 100 per cent.; if ever I lost one I do not know it. My preceptor will say the same thing, as he has been here and seen the results for thirty years. Was one of the first to advocate capping pulps in this section. (5) Yes; age makes a difference. *R. E. Morrison, Owensboro, Ky.*

(1) Should certainly cap the pulp if the history of the case would indicate; that is, if the pain has been only slight and was not due to any inflammation that would cause the slightest congestion. I would cap with, first, a paste composed of oxide of zinc and iodine, covered with any suitable substance to prevent pressure; and then covered with any good oxyphosphate cement. (2) I would fill over such cap, as soon as cement was hard enough to bear the filling. (3) I have capped a number of such exposures, but never removed the filling and capping for the purpose of seeing condition of pulp. (4) I should say that about 80 per cent. were successes. I can only base this estimate upon those that I have heard from. (5) I should say that the younger the patient the better the chance for success.
F. H. Lee, Auburn, N. Y.

(1) I would arrest the hemorrhage with a strong solution of tannin in alcohol, then touch exposure with wood creosote; cap with thin asbestos felt, having side placed in contact with pulp covered with a mixture of iodol, oxide of zinc and vaseline. (2) If systemic conditions are favorable, would fill at same sitting. In deep cavities fill over cap with Sampson cement one-half or one-third of cavity, and finish with gold. (3) Have had very few failures; have not removed any that I have finished with gold, they having been for young patients. Owing to my extreme care in selecting, they were not doubtful cases. If I have any doubt I give the patient the benefit of it (and myself also) and fill over, capping with phosphate, having a variety of results. After such treatment, if the tooth remains in a comfortable condition for three or four weeks, having frequently removed the temporary fillings, in young persons, found them alive, and have filled them permanently. Pursuing this plan of treatment, or any other, with patients of thirty years of age and upward, have more often found the pulp defunct than otherwise. (4) Don't know what per cent., but have sufficient success to justify continuing efforts in this direction. (5) The age of patient has much to do with success or failure, for various reasons; after the patient has reached the age of twenty-five or thirty years, the pulp diminishes in size so slowly that we cannot expect aid from the increased thickness of the dentine. *J. G. Templeton, Pittsburg, Pa.*

(1) I would, after constructing a safety pocket, cap the healthy, or sickly, pulp with *arsenic* and creosote. (2) In due time I would remove cap *and* pulp, giving the cavity just a touch of creosote, and then permanently fill. (3) I have employed this *cap* very often, found it very satisfactory, and have had no occasion subsequently to inquire concerning vitality. (4) After my fashion of doing things I think the pulp (having been translated), remained healthy, as no complaint was made and the patient looked happy. The percentage of success, I should say, was one hundred. (5) In permanent teeth, arsenic; in temporaries, cocaine. I think I am understood, and ask, on so *grave* a subject, that these, etc.—no laughing!

J. W. Clowes, New York.

(1) No. (2) No. (3) Yes; and found pulp dead in every case. (4) Do not believe an exposed pulp can be healthy. (5) If I had any idea of capping, believe that youthful patients are to be preferred. Find but little success in capping any exposed pulp; but still, in cases of slight exposure, cap in hope of keeping the pulps alive for a little longer in young patients. In older ones have almost abandoned the effort, and resort at once to devitalization and filling root and pulp chamber.

J. Allen Osmun, Newark, N. J.

(1) I cap all such cases with thin shavings of dentine, from an extracted tooth, treated with creosote, or with asbestos paper, and fill immediately. (3) No. (4) Sixty to eighty per cent. successful. (5) No.

William N. Morrison, St. Louis, Mo.

When a pulp is entirely exposed I generally kill it. If I cap it, it usually dies afterward. I do not think that we can save five in a hundred of freshly exposed healthy pulps by capping; and I do not think we can save *alive* one in a thousand, when the pulp has been congested. I have found live pulps after they have been capped, upon removing the filling, but not very often. In such cases they were slightly shrunken from original position. *S. C. G. Watkins, Montclair, N. J.*

(1) If the pain was slight, of short duration, and exposure small, yes. After the bleeding has ceased, dry out and cover the exposure with a film of collodion or thin chlora-percha; place over this, so as to cover floor of the cavity, a single thickness of No. 6 or 8 tin foil, and spread over it a thin coating of oxyphosphate. (2) Yes; after this has hardened, if no pain is present from the operation, fill the cavity with oxyphosphate, and at a future sitting, some weeks afterward, remove sufficient of the cement to obtain secure anchorage for whatever metallic filling is most desirable in the case. (3) Yes; often. (4) Cannot give exact percentage, but success is sufficient to warrant the trial every time where the exposure is small. This is based on experience in such cases seen from year to year, as afforded by a practice of seventeen years in my present location. Failures, I class as immediate—those occurring before the final filling; ultimate—those occurring within a year or two afterward; but not failures in cases where the tooth remains comfortable and useful for a year or more, when pulpitis supervenes, and the filling must be removed, and the pulp destroyed. (5) Not so much, in my opinion, as constitutional weakness or recent illness, from which the patient has not fully recovered.

W. T. Martin, Yazoo City, Miss.

(1) Not after; cap with oxychloride or oxyphosphate. (2) As soon as set, fill with amalgam for protection and await results. (3) Not often found alive after six months; depends upon the patient. (4) Not large enough to consider it good practice for me. (5) Consider the practice at *any* age uncertain.

N. B.—The treatment of exposed pulps meets with the greatest success in *dental meetings*—you hardly ever hear of failures there. Age has nothing to do with it. *A. P. Southwick, Buffalo, N. Y.*

The best mode of procedure, nine times out of ten, is to carefully expose and extirpate the pulp mass with the aid of obtundents, etc., if practical, at once; syringe thoroughly and freely with plain water, or listerine and water until bleeding ceases entirely; then use twists and tufts of clean bibulous paper freshly made, to dry canal; hot air and root dryer. The root canal of all lower teeth is then filled with salt water and listerine, half and half, then drop in it a pinch of impression plaster and mix in the root-canal with a fine probe, until all air is displaced; add more plaster, push into the cavity gently a pellet of bibulous paper or cotton; as soon as plaster is set, remove cotton, trim away surplus of plaster and proceed with filling, to finish all in one sitting. Where the pulp is too painful to permit this treatment at once, apply a painless arsenical paste—arsenic, cocaine, morphine, one part of each; mix with colodion and carbolic acid to make a paste. As a rule, postpone for one week and proceed as before. Your query seems to me a paradox; you say, "note, this query refers to healthy pulps;" then again, "if success is not warranted, why cap such diseased pulps?" An aching pulp is an irritated and inflamed congested pulp; it may be all that and not ache; it is no longer in a healthy condition and may become gangrenous in spite of the most judicious treatment. A healthy almost exposed pulp, that had never ached, may have become exposed by accident, the pulp being out of anatomical proportion to the tooth in general; it may bleed a little, too, yet this kind of healthy pulps I cap, fill and finish at once; no infection having taken place, success is assured. In regard to fully exposed infected pulps, such that slightly suppurate while under treatment preparatory to capping, I have had positive success in a few cases, over a period of ten years, and can show a case; yet I say it is not practical in every-day practice. I did not get beyond the experimental stage in capping in twenty years' experience. I like the idea of capping very much, but have not succeeded in making it practical under the circumstances mentioned.

David Engel, Brooklyn.

If the patient be free from malaria and its influences, general health good, and a person of vitality and resistance, I should not hesitate to cap, and would use oxide of zinc mixed into a paste with glycerine and carbolic acid, equal parts, placed in a lead cap, made by pressing a round end burnisher of size desired in sheet of lead, and trimming with scissors, so that it will rest on either side of exposure. This I settle gently in place without any pressure; I then flow over this phosphate of zinc, of the kind that will adhere to the walls of tooth; allow to harden and cut out, and excavate so as to leave as thick as possible over exposure. I then fill with gutta-percha, and leave this in until I am satisfied inflammation has not ensued, when I will fill with whatever the case demands. (3) Have never removed same filling, but have filled same tooth on another surface some time after, and

found dentine sensitive and showing every indication of a healthy pulp. (4) I should say fifty per cent., as about half give no trouble at all, three-eighths having to be destroyed, and one-eighth being sensive to heat for several days, gradually passing off and resuming normal condition. (5) I think not naturally, but we generally find more vital resistance in the younger subjects. I find that in persons with exceedingly sensitive skins, that is, where any little irritation will raise a welt, it is useless to try to save an exposed pulp under any conditions. *J. H. Allen, Birmingham, Ala.*

(1) I should cap such an exposure with mixture of refined infusorial earth, with plaster of Paris mixed with water, in which small quantity of earth had been dissolved. This capping, while being a non-conductor, is highly absorbent and non-irritating. I sometimes mix this refined earth with cement filling. (2) I should fill over this capping with gutta-percha temporarily, when, after a month without irritation, should fill permanently. (3) I have frequently removed capping and found pulp in good condition. (4) I have employed this method of capping for less than one year, and the results have been highly satisfactory, a very large percentage of the cases having been successful so far. (5) In youth the pulps seem to have greater recuperation however, and more vitality, and consequently adopt the capping with less objection than in past or middle age.

B. C. Russell, Keene, N. H.

(1) Though thoroughly convinced of the apparent health of the pulp, I still would hesitate capping until I had satisfactorily determined the state of the vascular system. Secondary to health only, is the coagulative principle in the blood. Unless this latter requisite is present little success can be attained, since without it the restorative functions of the blood are lacking. The existence of this very important principle can be easily recognized, inasmuch as the oozing will result in a small blood globule, instead of a serumated surface of dentine. Thus, other conditions being favorable, I would cap, using a small bit of spunk or cork moistened in dilute carbolic acid, and coat the same with chlora-percha. (2) I would, as soon as the chloroform had been thoroughly evaporated by hot air blasts, fill the cavity temporarily with oxychloride of zinc. (3) Never found it still living, but to the contrary, dead, and the space it once occupied gradually filling in with osteo-dental tissue; or more commonly, the pulp showed symptoms of pulpitis and even ulceration. If the filling has been a source of constant but slight irritation to the pulp, the former condition has been the result; but if the pressure of the filling has been too severe, inflammation and suppuration has occurred. (4) About seventy-five per cent., I judge, are successes. This estimate I base on the entire number of such operations. (5) I believe age has less to do with the operation than the vitality of the general constitution. *B. J. Cigrand, Chicago, Ill.*

(1) I would cover the exposed pulp with asbestos felt slightly moistened with Fletcher's Carbolized Resin. (2) I would fill at once, putting oxyphosphate over the felt, and then gold or amalgam. (3) Have removed such filling and found pulp alive and healthy. (4) Would expect success in all cases where the pulp was healthy and patient hardy, because the felt will protect the pulp from pressure of filling and thermal changes or shocks. (5) Age would have but little to do with success.

L. S. Straw, Newburgh, N. Y.

(1) If it bleeds, no; I used to cap, but stopped; I cap only slightly exposed and nearly-exposed pulps. (2) I used to fill, sometimes same day, next day, or next week, but don't now, for reasons. (3) Oh, yes; have been successful with same, but many of them lead the patient a terrible time with their jumping, throbbing, aching, etc. Have opened several that were capped, but never found one healthy after it had once bled or become inflamed from a local cause; some were living, but a little too much alive. (4) My percentage of healthy exposed pulps (non-bleeding) is fully eighty-five per cent. successful for five years—estimate on teeth alive and not paining for five years. (5) Have not noticed much difference in age, but have in families. In my own family I have never been successful in capping for any of three sisters, nor any dentist for me. The slightest exposure, or even near exposure means death to the pulp or trouble until it is destroyed; in other branches of the family have no trouble.

C. Bunting Colson, Charleston, S. C.

(1) I do not believe the dental pulp has any recuperative powers. Lymph is absolutely essential to the reconstruction of broken tissue. Histology fails to find these glands in the dental pulp. Therefore I would not, as a rule, resort to capping. The function of the pulp is, beyond a doubt, finished when the tooth is fully developed, and lies dormant or degenerates, until awakened to the inflammatory stage by some abnormal condition, and makes one realize the correctness of Byron's statement when he says, "tooth is the hell of all pain." If, however, my patient had not reached the age of adolescence, I would give it every chance. On the other hand, were he or she an adult, I would most emphatically not hesitate to devitalize. If I decided to cap, I would remove all soft or leathery dentine and sterilize the remainder. Too much stress cannot be laid on this step. 1 to 1,000 solution in water of H G C L_2 is a reliable germicide and non-irritant, if used at proper temperature, about 100 degrees Fahr., producing sterilization. I place over exposure one of Leque's cavity disks, held in place with a little balsam impregnated with iodoform; cover floor or bottom of cavity with bees-wax warm enough to run off the instrument. Varnish cavity, as fluid of cement will destroy the pulp of any tooth when it comes in direct contact with the dentine. Just give it time; fill with cement mixed soft. If the capping seemed a success I would never remove it; as time went by I would retouch filling as long as patient was in my care. (4) I cannot conceive of such a thing as a healthy exposed pulp. The mere fact of its being exposed constitutes a lesion which in itself is a pathological condition from which few, if any, ever recover. I admit nature is a rum old dame and has some queer freaks, but she don't often exercise these mysterious gambols in a favorable manner in capped tooth pulps. (5) I would say a young patient would stand a better chance than an old one.

R. C. Young, Anniston, Ala.

(1) Yes; give it a chance. Would try to think of some cap and treatment without a record. (2) Would fill with gutta-percha, and refill if practical, during good behavior. Would not disturb cap unless compelled to do so. (3) Have removed fillings and caps from teeth apparently all right. In a few cases found the pulp exposed as at first. Oftener found nothing to indicate vitality of pulp or dentine, with the point of exposure marked with a discolored spot; filled without further investigation. Do not think

such pulps are in a normal condition. (5) The percentage of success of both the above-named conditions is too small to report with credit for skill in capping exposed pulps. If healthy pulps "scarcely be saved where shall the" diseased and sloughing appear. *S. B. Palmer, Syracuse, N. Y.*

(1) Generally speaking, yes; oxyphosphate cement filling. (2) Would refill with more substantial filling, some months later, leaving a coating of old cement filling over pulp. (3) Yes; have often found pulp perfectly healthy, but do not remove capping to discover the state of pulp, as it is not necessary to do so. (4) About ninety-five per cent. (5) Success is more sure in young and middle age. Not advisable in old or weak persons. Temperament is a great consideration; where lymphatic temperament predominates never cap, always kill, as in such recuperative power is feeble. The nervous and nervo-bilious temperaments are most favorable.

F. T. Gibson, New York.

I am not a believer in capping exposed pulps, but under the condition you name (that is accidental exposure, with no inflammation), I would not feel justified in "knocking out." I would flow over the pulp a thin cream of pure wood creosote (Morson & Sons, none other), mixed with oxide of zinc, and finish with agate cement, deferring a metallic filling for several months. This operation I have performed several times and believe, from appearances, in one case at least, the tooth was alive after several years. Have never removed such a filling and found the pulp alive. I now cap no exposed pulps under any other conditions; my experience for a number of years, when I followed that course, having shown me that about 110 per cent. would prove failures.

C. Edmund Kells, Jr., New Orleans, La.

(1) I would cap immediately with a paste made from iodoform and 1-3,000 bichloride placed over the pulp; immediately over that oxyphosphate. (2) If there is no trouble I fill permanently in two or three months with gold or amalgam. (3) Never had an occasion to remove filling or capping unless the tooth ached. (4) I should think eight out of ten cases are successful by this method. (5) Age and temperament have quite a little to do with the successful capping of pulps.

W. R. Blackstone, Manchester, N. H.

Such pulps may be successfully capped in the majority of cases if great care be exercised in performing the operation; yet many pulps will die if irritated. The physical condition of the patient may be so low that a wounded pulp cannot recuperate, and its death therefore will ensue. (1) I would cap and would use gutta-percha slightly softened by heat, in contact with the pulp, moulding it so that it will lay close to the base of cavity, but not press against the exposed pulp. (2) Upon the gutta-percha oxyphosphate of zinc is placed to form a solid base for the filling. I usually fill the cavity full of oxyphosphate and let it remain several months. If no pulpitis occurs within a year the cavity may be filled with gold. (3) Yes. (4) Am unable to say just what per cent. of such pulps live, but think that the per cent. of successful cases warrants the practice of capping. (5) I regard youth as a period most favorable to capping pulps, as at that time the pulp is larger and the foramen at apex is larger; so, therefore, the circulation of the pulp is not so likely to be arrested, as later in life, when the pulp and apical foramen have become constricted. When congestion of the pulp occurs in the teeth of

the aged its circulation is more likely to be arrested in consequence of the very small size of the apical foramen. *T. W. Brophy, Chicago, Ill.*

(1) Yes; if constitutional surroundings are favorable; mercurial, alcoholic and hemorrhagic diathesis unfavorable. Cap with asbestos paper or fine cork touched on under surfacc with lano-creolin ointment. (2) At once, using upper pad of Flagg's hard gutta-percha between cap and filling. (3) Only twice since using lano-creolin; pulps alive and painless. (4) Very little success with patients over twenty. Large percentage of failures ten or more years ago, due to rather indiscriminate attempts to follow the fad of the period in capping. Success is due to selection of young pulps, care in manipulation, and nursing of tooth for weeks afterward by avoiding use. No faith or success in capping aged pulps. Prefer, however, to try all and fail than to use arsenic indiscriminately. Supposed successes may only indicate mummification, and mummies do not tell tales. During la grippe epidemic in Montreal all exposed pulps seemed to resent conservative treatment at once. *W. George Beers, Montreal, Canada.*

QUERY:—*Are there any definite symptoms observable either in the tooth, gums or adjacent parts, by which we may be able positively to diagnosticate cementosis, before extraction?*

The disease has no pathognomonic symptoms; its expressions are as various as its causes are numerous. One of the most prominent symptoms is facial neuralgia, but that is not constant. Many cases present without any neuralgic complication. The pathology of the disease is little known, and its diagnosis, previous to extraction, uncertain and difficult, if not absolutely impossible. *W. X. Sudduth, Minneapolis, Minn.*

I know of none by which we may certainly detect it.
R. R. Andrews, Cambridge, Mass.

There are no diagnostic signs by which we may certainly detect excementosis. We may say unhesitatingly that certain conditions stimulate its development, and that it is accompanied with certain other abnormalities; but these latter may exist either with or without excementosis being present; so that they are not unmistakable signs of its development. For instance, a tooth unopposed or mal-opposed for any length of time has invariably an abnormal development of cementum as a result of this occlusion or mal-occlusion; so also a tooth with a remotely devitalized pulp is frequently in the same condition. We may also add that any, either local or constitutional condition, which will indnce chronic pericementitis will induce excementosis. Locally a congested and slightly tumified gum, this latter varying very much with different constitutions; a soreness or responsiveness in the tooth from pressure or tapping with steel instrument. Sometimes a slight vibration of the tooth perceptible when seizing it in the fingers and pressing with slight force. Constitutionally and systemically facial neuralgia manifested in any locality to which filaments of the nerve may be distributed, radiating, or otherwise from the affected tooth. But all of these manifestations, both local and general, may result from or be expressions of other disorders than excementosis.

C. N. Pierce, Philadelphia, Pa.

CURRENT THOUGHTS.

EMPYEMA OF THE ANTRUM OF HIGHMORE.

By Frederic C. Cobb, M.D., Boston, Mass.

Empyema of the antrum of Highmore has been for years well known to surgeons both in this country and abroad, but was considered rare on account of a want of comprehension of its symptoms. Jourdain, Deschamps, Cooper, and Desault in the eighteenth century had described it, and Deschamps had even advised catheterization of the antrum by the normal orifice, a piece of advice, however, much more easily given than followed. The antrum was already opened through the canine fossa by Lamourier and Desault, while the alveolar process had been used as a point of approach by Meibomius and Cooper. These cases were of the acute and violent type, and were rare, as they are at the present time. In the records of the Massachusetts General Hospital for the last twenty years I can find but about a dozen cases, and they are all of much the same character. The patient usually entered the hospital complaining of great pain and soreness over the antrum. On examination the whole side of the face was found to be red, swollen, and tender, and perhaps fluctuating at some point below the orbit. The question at first arose as to whether the inflammation was in the antrum or external to it, and in the soft tissues only. Carious teeth were now looked for and extracted when found, and the antrum was washed, the fluid entering at the sinus and passing out of the alveolar opening thus made. The antrum was then packed, or perhaps curetted, and the patient allowed to leave the hospital in a week or ten days, with directions to wash the cavity daily through the alveolar opening. Unfortunately most of these cases occurred so long ago that it is hopeless now to follow their history. No mention of any nasal examination is recorded in any of the older ones, but in most of them carious teeth play an important part. No allusion is made to a possible specific cause, although in the light of our subsequent cases it should, I think, always be considered. Several of these cases occurred in young children from five to seven years of age, and show that where rhinitis persists in childhood antral disease should be thought of. All these cases were, of course, of a violent type and usually not difficult of diagnosis. It is only, however, in the last ten years that the attention of laryngologists has been drawn to a milder form of the same af-

fection. Within the last few years much has been written about the antrum and other sinuses, and light has been thown upon many obstinate cases of rhinitis which were formerly considered incurable. When we read the reports of the cases I have mentioned it is hard to realize that the disease, as we meet it in laryngological and in surgical clinics, is the same, and that its different symptoms are simply due to the occlusion or patency of the antral orifice. These milder cases we may call latent empyema, or blennorrhœa of the antrum, and instead of the violent symptoms complained of in the form of which I have spoken, are usually signalized by a discharge of a more or less purulent character from one or other nostril, usually accompanied by a foul smell, unlike the smell of ozæna, to the patient himself. This discharge may, of course, be bilaterial if both cavities are involved, but it is not usually so. With this history there arises a consideration of the conditions which may give rise to a unilateral nasal discharge, and these are a foreign body in the nostril, syphilitic disease, and empyema of one of the accessory cavities. On examination of the nose we find the passage clear, thus eliminating foreign bodies from our list. If there is no sign of syphilis, no necrosis of the septum or perforation of its bony wall, we can rule out nasal syphilis with probability. We are then left with an empyema of a sinus, and must make a careful diagnosis as to which accessory cavity is affected. We have to consider in the order of frequency antral, frontal, ethmoid, and sphenoid empyema. Disease of the antrum is by far the most common, probably on account of the connection of that cavity with the teeth, many authors believing that it is ten times as frequent as empyema of any other sinus. Of course the first point to be looked for is the location of the discharge. If pus is seen issuing from under the middle turbinate, the diagnosis is simplified, since the frontal sinus, the anterior ethmoidal, and the antrum have their outlets in that region. The nostril should therefore be carefully cleansed and wiped dry with a pledget of cotton, and then the point of issue of the pus carefully noted. If the pus comes from under the middle turbinate, we next have to differentiate between the antrum, the frontal, and anterior ethmoidal cells. This is often a difficult matter, and many expedients have been resorted to in deciding which cavity is affected.

The presence of necrosed bone in the ethmoid region, and the location of the pain, may determine the diagnosis in favor of that cavity. If these signs are wanting, we are left to make a diagnosis between frontal and antral empyema. The location of

the pain is here not absolutely reliable, for frontal pain is met with in empyema of the antrum. We may find redness or tenderness over the frontal sinus, and it is recommended to probe the sinus through its opening in the infundibulum. If this fails the anatomical exits of the sinuses may be taken advantage of for the purpose of diagnosis in the following way: As the frontal and ethmoidal have their openings at their lowest parts, while the antral opening is at its highest part, it is evident that the two first sinuses are best drained when the head is in an upright position: but the antrum, when the head is inverted. The patient is therefore directed, after his nostrils have been wiped clear of pus, to put his head between his knees, and if, after a few moments, on assuming the erect position, the nostril is found full of pus, it has probably come from the antrum. The method of transillumination by putting a small electric lamp in the mouth and darkening the room is sometimes useful, as is shown in the cases to-night. Transillumination, however, does not always give certain results, for the variation in the thickness of the walls of the antrum may be considerable, and the skin may be too thick to transmit light well. If these methods fail, recourse must be had to exploratory puncture by the lower meatus, canine fossa, or alveolar process. The former is preferable, in my opinion, for the following reasons: First, the wall is usually very thin, and, second, there is little or no reactionary inflammation. I have found in perforating through the canine fossa, an immediate swelling of the cheek, which much distorted the face for some days. The passage of the canula was painful, and seemed to increase the swelling. The alveolus is often thick, and therefore more difficult to use as a means of approach. It is, however, on account of its connection with the lowest part of the cavity, and on account of enabling the patient to wash out his own antrum, rapidly becoming the favorite location for puncture. In two of my cases, after an exploratory opening had been made in the lower meatus, carious teeth having their roots in the antrum were extracted and the cavity washed through their sockets, but in both cases the patient preferred to have the washing continued by the lower meatus. If it is decided to puncture by the lower meatus a strong trocar should be introduced below the lower turbinate and turned obliquely outward, as far as the nostril will allow, and then pushed through into the sinus. Often, however, the bone is too thick to permit of this proceeding; it is therefore better, I think, to use a trephine or bur propelled by a dental engine. When the trephine has entered, this is at once felt by the sudden lack of re-

sistance, and it is withdrawn, a canula of the same size fitted to an aspirating syringe introduced, and some of the contents of the antrum removed. For accurate diagnosis this proceeding is better than at once washing out the pus, because the fluid passing over the middle meatus may carry with it pus from the infundibulum, which has not necessarily come from the maxillary sinus. Usually the first washing is accompanied by a very considerable discharge of intensely foul-smelling pus. Ziem has, however, reported very slight amounts of pus from apparently plain cases of empyema, and I have noticed, in two of the cases reported to-night, so little discharge on puncture that the diagnosis seemed to me at the time uncertain, although the result of treatment appears to me proof positive, for the foul discharge improved after the first washing of the antrum and ceased in a short time, although it had lasted many weeks before the puncture. If the pus be too thick to be drawn through an aspirating tube, washing is in reality the only method of ascertaining its presence. In such cases the nostril should be carefully wiped out before washing the antrum. The odor from pus in long-standing antral empyema is almost unbearable, and one can easily understand the distress its constant presence in the nose must cause the patient. Frequently in suspected cases at the time of observation no pus is seen in the middle meatus, and the surgeon is obliged to make the patient lower his head in the manner already described, so as to drain the antrum. Often the patient's history—that pus appears when he lies on the sound side—will give the observer a hint as to the best way of obtaining the discharge. I have found a peculiar thin brown mark on the handkerchiefs, a valuable guide to diagnosis which I have not seen described in papers on the subject. This stain has disappeared in the cases treated and cured, and much lessened in those constantly washed. In one case, where nothing could be seen in the nostril, and yet a constant thin brown spot on the handkerchiefs appeared, a probe wound with cotton was inserted under the middle turbinate, and on being removed the stain on the cotton and on the handkerchiefs was found to correspond very well. The antrum was opened through a tooth-socket and washed and cured, the stains disappearing from the handkerchief after a few washings.

The opening was allowed to close eight months ago, and there has been no recurrence of discharge or stains since. Mackenzie has suggested that the pus discharge be examined for bacilli, and this has been done, with as yet no important results

as regards diagnosis. The staphylococci pyogenes aurens and albus and citreous, and the pneumococcus of Telamon-Fränkel, have been found, the latter of interest since pneumonia is recorded as having followed antral disease. The prognosis in cases as regards time of continuance is not of the best, an untreated suppuration lasting many years or through life. It may give rise to many complications directly due to an affection of its neighboring organs or structures, and indirectly to disease of distant organs. Of the neighboring organs the eye is perhaps most frequently affected, and we have iritis, panophthalmitis, narrowing of the field of vision, orbital abscess, and lid abscess, all following empyema of the antrum. Of the skin of the face, facial abscess and pyodermatoses are mentioned, while in ear and throat acute otitis media (from entrance of pus into the Eustachian tube) and peritonsillar abscess (probably from the passage of pus over the tonsillar region) have been noted. In more distant organs we find reported pneumonia, lung abscess, arthritis, and nephritis. In none of the cases shown by me have any of these complications occurred. As to the question of treatment of empyema of the antrum there is much diversity of opinion. In the fulminant cases there is no question that a wide opening and drainage are imperative. In latent cases, on the other hand, the results of brilliant surgery do not seem to be as gratifying as in some other localities. It goes without saying that the cause must be carefully sought if we are to cure the condition. The most common causes of empyema of this sinus are, I think, in the order of frequency, carious teeth, nasal obstruction, and syphilis. Other less frequent agents of suppuration are foreign bodies in the antrum, such as supernumerary teeth or cotton pledgets introduced into tooth-sockets by the dentist, from thence escaping into the antrum. A rubber drainage-tube has been found as an exciting cause, and had remained some years in the antrum before its discovery and removal. Epidemic influenza seems to have played a prominent part in many cases. In most of my patients the teeth have been an important factor, and in two of them antisyphilitic treatment has decided the diagnosis. I think we may say at present that empyema of the antrum is an obstinate disease, and requires the greatest persistence on the part of both physician and patient. There is, of course, a limit where patience ceases to be a virtue, and mild methods must give place to more energetic surgery, but the fixing of this limit must be dictated by personal experience. Some of my cases were cured in a short time—two or three weeks—some after several months, and others

are still under treatment and relapse when the washing is intermitted.

With regard to the location of antral puncture authorities differ, although the weight of opinion seems to be in favor of the alveolar opening. Most of my cases have been washed through the lower meatus, although some have been washed through the canine fossa and the alveolar process. The advisability of a large or small opening into the antrum is still in dispute. Most surgeons believe in the former, while Zeim, with his enormous number of cases, advocates the latter. He, however, maks up for the smallness of the opening by using a powerful pump, which sweeps the antrum out under pressure as it were. Bosworth, on the other hand, advises making an opening in the alveolar process large enough to admit the little finger and thoroughly exploring the antrum. This certainly seems a most rational method of procedure. —*International Dental Journal.*

THE DENTAL FILLING.

By Joseph Head, D.D.S, Philadelphia, Pa.

For the last fifty years dentists have declared that a filling must be water-tight, forgetting that the tooth itself is thoroughly pervious to moisture, and also forgetting that many fillings which admittedly leak keep on preserving the tooth-structure indefinitely. Jack has put in soft foil fillings, under water, that have done good service for years. Elliott's observations concerning the universal leakage of amalgam plugs are verified by the daily experience of each dentist, and yet who will say that in spite of leakage amalgam does not save the teeth well?

Drop a fresh tooth, filled with gutta-percha, into aniline ink, and at the end of five minutes the entire cavity under the filling will be stained.

The oxychloride of zinc and oxyphosphate of zinc are permeable to moisture; nevertheless cement and gutta-percha are indispensable to those operators who would serve the best interests of their patients.

Cohesive gold and tin are claimed by their admirers to be non-leaking materials, but when a tin or cohesive gold filling is first carefully cleansed and then melted, a decided odor of burnt organic material will be perceptible, which would seem to emanate from the interior of the metal. In the light of this fact further proof is necessary before cohesive gold and tin can be said to

positively seal the cavity margins. And if they should be proven to absolutely seal such margins, the mere fact that the other materials frequently preserved teeth would be conclusive evidence that leakage of moisture in itself is not a serious objection.

The destructive electro-chemical action of filling-materials on the teeth, once so strongly advocated by Chase, has been proven by Miller to be untrustworthy; and if Miller's experiments had not been so conclusive, the daily dental operations, where tin and gold are advantageously combined, would of themselves, as years go by, prove the electro-chemical action in the human mouth quite harmless.

That such currents do exist at times no one who has put an amalgam filling in an acid mouth containing gold can for a moment doubt. And it is certainly true that such currents are invariably accompanied by chemical dissolution; but practically no harm results, as an insulatory coat soon forms on the amalgam which effectually puts a stop to any serious corrosion. Instead of saying that an efficient filling should be absolutely water-tight, and should have no electro-chemical action on the teeth, might it not be said that the perfect filling will exclude bacteria from the cavity as thoroughly as would normal enamel; in fact, that it will exclude them absolutely?

Let us see if we have such a filling-material. Oxychloride and oxyphosphate of zinc leak bacteria, the proof being as follows: Hollow balls of oxychloride of zinc and hollow balls of oxyphosphate of zinc were thoroughly sterilized, and then dropped in a solution of bouillon that had been inoculated with a decayed tooth. At the end of five days they were opened. The bouillon had filtered through the substance. The bouillon found within was swarming with bacteria.

Gutta-percha was tested as follows: Several old cuspid teeth of dense structure were drilled through from end to end, the pulp-canal being eradicated. With proper precautions these were sterilized and filled at each end with gutta-percha, a small pellet of cotton soaked in sterilized bouillon being left inside. These were subjected to steam heat for an hour, five separate times, an interval of a day elapsing between each heating. They were then placed in tainted bouillon. At the end of five days they were examined, and the cotton soaked by broth was found to contain cocci, piplocci, streptococci, and staphylococci. The reports of these two experiments are given at full length in the June number of the *International Dental Journal*. The gutta-percha test is not conclusive, as Miller has shown that bacteria

may very occasionally penetrate the normal dentinal tubules; but at least the experiment would seem to indicate that gutta-percha could not keep them out, which is the real point at issue.

That valid amalgam fillings at times leak bacteria as well as moisture, no experienced practitioner will deny.

Tin and cohesive gold are the only materials that may exclude bacteria. That they do exclude them is yet to be proved. Soft-foil fillings have been picked out from cavities by the explorer in a pulpy, evil-smelling state, to all appearances full of bacteria, and yet the dentine beneath has been found firm and sound.

It is a most astonishing fact that soft-foil fillings may be soft and mushy without the least harm to the protected cavity; while, if cohesive foil fillings are soft or defective on the edge, decay almost invariably sets in. Miller claims that soft foil has a slightly antiseptic action, which is lost in annealing. It might be said that a not too dense filling would be less likely to dangerously expand or contract under the action of cold or hot drinks. But these explanations do not seem sufficient. The questions raised by these facts cannot as yet be satisfactorily answered, and I hope some experiments on this subject, which are now in process, will give more positive light.

How is it that filllings can leak bacteria and still preserve the teeth? The fundamental principles of dentistry would seem to be shaken and antisepsis set at naught did we not remember that the quantity of bacteria, and the presence or absence of a suitable culture, is a most important factor in the process of decay.

Every man in a state of health, passing through the city, may safely inhale a limited number of small-pox germs, as the tissues and white blood-corpuscles will destroy them.

If, however, he works in a hospital, or wears the clothing of a small-pox patient, the number of germs taken into the body overcomes the hygienic police force, and the man falls sick. The same principle applies to tooth-fillings. The tooth can resist the onslaught of a few bacteria, and, it would seem, destroy them, as is shown in the case of mummified black decay. Moreover, many bacteria need the presence of air, and all need a constant supply of food. The fillings tend to exclude both of these essentials for bacteriological propagation.

In spite of the fact that a useful filling may leak microörganisms, there should be no pains spared to adapt each plug as accurately as possible. The more perfectly a filling excludes bac-

teria from a sterilized cavity, the more certain the chances of permanent success.

And after all has been said against filling-materials and defective conditions of the saliva, it seems probable that the great majority of our failures arise either from hasty preparation of the cavity or unskilful manipulation.

In my opinion, a gold filling, either of soft or cohesive foil, if it has perfect adaptation to good enamel-edges, will preserve the tooth as absolutely as if the original enamel remained dense and undecalcified. A filling at best can only restore the tooth to its original condition of perfection, and if the acid and bacteria, which originally created decay, should attack it again, there is no reason why the tooth-substance should not disintegrate a second time. This is an unanswerable excuse, and may convince the patient many times, but if decay recur too often in the same place, the coincidence is most unfortunate for the dentist.

I am well aware, from my varied experience in denal meetings, that there are numerous practitioners who always do absolutely perfect work; whose hands never tremble from fatigue at the end of a long day; whose weary eyes never by any possibility overlook small concealed portions of decay that ought to be removed. These practitioners will not need the suggestion I am going to make, because when no fault can exist no precaution is necessary. But to that large and most useful class of dentists who, in spite of a personal element of error, engage to relieve pain, preserve teeth, and make mouths wholesome—to them I would say: After the gold filling, approximal or crown, is inserted to the best of their ability, let them polish it down almost flush with the enamel-edges, and rub in thoroughly a mush of amalgam. When the patient returns, they can polish all the amalgam off and finish the filling, which will look untarnished and resemble any ordinary filling except in one particular. Should decay attack its borders, the conscience of the dentist may be quite clear.

Of course the amalgam that fills up any small fissure will shrink, while hot and cold drinks may cause the gold to expand and contract from the cavity walls. But objections to gold fillings are now out of date. Gold for upward of fifty years has prevented decay. The teeth can successfully antagonize a small number of bacteria, and it is my opinion and my experience that the edges of a gold filling, guarded with amalgam as described, will successfully prohibit the dangerous entrance of microörganisms.—*Cosmos.*

CANCRUM ORIS.

By J. P. Shaw, D.D.S.

Because of cancrum oris occurring so rarely in an adult I have prepared this paper. All writers treat this disease as one peculiar to children in crowded districts, where the lack of fresh air and healthful diet, together with scrofulous and syphilitic tendencies, act as predisposing causes, and cite only a few cases where gangrene occurs in adults.

It is not my intention, however, to attempt a treatise on cancrum oris, nor to embellish my paper with high-sounding phrases or technicalities, but as concisely as possible to detail a case as it came under my observation. This paper is a compilation of notes taken by myself and Dr. W. C. Keene, the physician in charge, and the case is as follows:

The patient was about thirty-five years old. For several years he had lived in Southern Missouri and in Arkansas, returning to this, his native State, a few months previous to his illness. His occupation was that of a "cropper," or farmer on shares, his life consequently an active one. His diet was very plain, consisting chiefly of corn-bread and pork. At this time he was apparently in good health.

About the last week in May he had a left inferior first molar extracted by a physician. A few days later he sent for the same physician, complaining of a sore mouth, for which no relief was afforded. On June 3d, Dr. W. C. Keen was called in, and later myself. An examination resulted in the diagnosis of gangrene, and the disease was found to be considerably advanced. The cheek, as well as the gum-tissue, was involved, the sloughing was very great, and the discharge offensive.

All of the part involved was thoroughly scraped and all appearance of diseased tissue removed, and the part was then well cauterized with nitrate of silver. A nourishing diet was ordered, and a tonic of iron and quinine prescribed. At the second visit the socket of the tooth, where the destruction had been greatest, was again scraped and an application of tinc. muriate iron made. A mouth-wash of tinc. myrrh, listerine, and Condy's fluid, was ordered to be used *ad libitum*. This course of treatment was followed by very happy results, as healthy granulation was established and a decided general improvement. June 10th the patient was dismissed, as he had sufficiently convalesced to resume his work on the farm.

On June 18th the case again required attention, and an ex-

amination showed that the disease had progressed to an alarming extent. An attempt was again made to remove the sloughing tissue, but it was fruitless, because of the extent. The former treatment was resumed as far as possible, but without any good results, the patient dying July 2d.

The general condition of the patient during the progress of the disease will perhaps be interesting if not instructive. At no time was there a perforation of the cheek, and the extension of the disease was confined principally to the left side, although all the tissue of the oral cavity was affected. By introduction of the probe it was very apparent that the osseous tissue was not only denuded but must have been acted upon. It seemed as if the probe would extend almost to the orbit, but an examination, or any attempt to treat, the jaw was so painful that it had to be given up during the last few days, when the disease had progressed to its greatest extent. Because of the swelling and distortion nothing could be determined except by examination with an instrument. The gums extended over all the teeth in both the upper and lower jaws.

From the period of relapse the glands of the neck were swollen and the face greatly distorted. Later the glandular system throughout the entire body was involved, seeming to be greater on the left than on the right side.

The patient complained of fainting spells at night and of a constant severe headache. I cannot state the condition of the bowels, but heard no complaint of diarrhoea, as seems to be true of children similarly affected.

No hemorrhage occurred at any time except when diseased tissue was being scraped. There was a constant expectoration of a fibrous greenish discharge, which was unbearably offensive during the last few days.

Nothing could be ascertained from family history as a predisposing cause, and from all the indications this seems to have been a true case of cancrum oris.—*Dental Digest.*

PAINS AFTER EXTRACTION OF THE TEETH.

From Dental Office and Laboratory.

This becomes sometimes so severe as to render the sufferer almost wild with pain. What will relieve in one instance seems useless in another, so that we give all the remedies which have been suggested from time to time, that they may be tried in the effort to allay the suffering:

Of nitro-glycerine take a single drop *in a half a glass of cold water*. The nitro-glycerine should be a one per cent. solution.

Inhale two drops of amyl-nitrate for three or four seconds, carefully, and follow the inhalation by complete rest for five minutes.

Fletcher's carbolized resin, which is composed of resin, carbolic acid and chloroform. The resin may be dissolved in the chloroform to saturation in a half ounce vial, and ten drops of carbolic acid added. It is also an excellent styptic.

Chloroform one part, and tincture of pyrethum. The combination on cotton placed in the socket.

Cleanse out the socket with phenol-sodique, then apply, on a loosely rolled pellet of cotton, the following:

Glazial carbolic acid..... ℥ij.
Liq. potasse..... ℥j.
Water..... ℥vj.
M. *Gorga's Dental Medicine.*

Alcohol (best)..... ℥j.
Chloroform..... ℥ij.
Sulphuric ether..... ℥¾.
Gum camphor..... ℥ss.
Tinct. opium ..... 3j.
Oil cloves ..... ℥ss.
S.—Apply in the socket on a pledget of cotton. *T. B. Welch.*

Camphor..... 3j.
Chloroform..... ℥ij.
M. Apply to socket on cotton.
Chloroform, tinct. aconite equal parts. Apply to socket on cotton.

Morphia..... gr. vj.
Tinct. aconite,
Chloroform,
Alcohol..... āā fl.℥j.
M. Apply on cotton in the socket.

Relief is often obtained by heat—a dry hop poultice held next the cheek.

Wipe out the socket with a swab of cotton wound around a match stick, so as to remove all blood clots, and syringe the socket well with hot water.

The septum in the socket next the adjoining tooth is sometimes fractured in the effort of extraction, and little spiculae of bone remain within the socket, keeping up irritation. These

should be removed, if large enough to be seized with the tweezers, or syringed out with hot water if too small. Suppress the hemorrhage as much as possible, and apply to the socket cotton moistened with phenated camphor.

Dr. E. Sjoberg, of Stockholm, offers the following: Among the various remedies which are used for quieting the after-pain of tooth extraction, with or without resection, there is scarcely anything found more reliable than phenylic acid. First try a warm solution, say 3.5 per cent.; inject it into the bottom of the alveolus with an ordinary-sized syringe. Should the pain continue take phenylic acid alone, and fill the alveolus with the help of a syringe, with a bent end. After a few seconds take away the superfluous fluid with a taper end made of blotting paper. Either the pure phenylic acid or the strong solution is used; a napkin, reaching the edges of the alveolus, must be pressed to both sides of the same in order to protect the surrounding parts from excoriation.

Menthol. crys. ..... gr.v.
Tinct. aconite ..... gtt.xx.
Chloroform, ... q. s 3ij.

Sig.—Apply on gum over the seat of trouble with a pad of bibulous paper. *Ohio Dental Journal.*

Wash out socket by syringing with hot water, to which a few drops of carbolic acid are added, and see there are no loose spiculae of bone to act as irritants, then introduce cotton saturated with

℞.—Menthol ..... 3j.
Chloral hydrate ..... 3j.
Camphor gum ..... 3ss.
Alcohol ..... fl 3j.

When the pain partakes of a neuralgic character antikamnia in 3 to 5 grain doses, phenacetine in 5 to 10 grain doses will generally give relief.

The face may be bathed with a liniment of

℞.—Laudanum ..... fl. 3ij.
Tinct. capsici ..... fl. 3ss.
Spt. camph ..... fl. 3ss.
Oil sassafras ..... fl. 3ij.

Dr. I. H. Morgan, Salem, Va., in Busy Dentist.

In reporting a case of twelve days' pain after extracting a tooth to relieve periostitis, Mr. Bennett says relief was finally and instantly obtained by passing a Paget's knife into the socket and cutting across the nerve.—*Journal British Dental Association.*

MONEY.

By C. H. Nicholson, D.D.S., Rochester, N. Y.

I am fully aware, Mr. President and gentlemen, that as a thought my subject may not be a new one, but as a commodity it is so rare to the average dentist, in this day of bad accounts and slow collections, that I am persuaded its introduction here may, perhaps, prove of some interest, or some member may have something to say in addition which will be of benefit to us all.

I do not intend to go into "sound money," or any of the various phases of the silver question and other political drives, on the importance of which, according to the professional politician, the future welfare of this great nation depends. You all, doubtless, hear and read too much on that score in the public prints, and will be required to tolerate still more of it until November's important event shall have passed, but what I shall say will be intended to have a direct bearing on the welfare of every member of the dental profession, and especially in this part of the State.

What is the commercial standing or financial rating of the average dentist to-day? If you will take the trouble to consider the matter for a little, you will find by common consent the average place is not a high one. Dentists as a class are poor men. Why is this? Why is it that dentists are not regarded as moneyed men, and have not much weight or standing in the world of finance? If you turn to the medical or legal professions the case will appear different. There you will find men of means, of comfortable bank accounts, and landed estates. In general, the financial standing of those two professions is far higher than dentistry has ever aspired to.

I readily grant that their field is a wider one, and opportunities capable of greater development than ours, but does that tell the whole story? Are we making the most of *our* opportunities?

It is not that dental fees are so much smaller than other professions, especially medicine, but, it seems to me, the cause will be apparent if search be made in other directions. For instance, the manner in which a dental practice is generally conducted. The half-hearted, slipshod and unbusinesslike methods too often found would not be tolerated in other pursuits. Place business principles alongside the average plan of conducting a dental practice and note the difference. Are our patients met with a "time-is-valuable-please-state-the-object-of-your-visit" sort of an air? Are our books neatly and properly kept, and does each entry show a complete record of a stated transaction? Can we tell the

what, where, how and when of each entry, six months or a year later? If we go into a banking or commercial house to arrange certain business, we are promptly met with a request for references or some statement of terms on which the transaction may be based.

I ask, is it not possible to conduct a practice on lines more closely akin to these; in other words, on business principles?

It is a common thing to be asked by a patient the cost of a plate or crown, or even of the entire work to be done in a mouth. Why is it not just as pertinent for the dentist to ask "When do I get my fee?" or state his terms and arrange that they be promptly met, especially in the case of a stranger. I fear the chance of offending people often prevents the mention of terms by the practitioner; but it is the writer's opinion that a courteous and gentlemanly intimation that when the work is complete the cash is expected, would give no offense to people who intend to pay, and to those who don't—why, you are better off without their patronage. Of course, such rules cannot be always enforced, and considerable discretion must be used; but is there any harm in speaking of business in a businesslike way, openly, frankly and above board? A thorough understanding at the time of making your first engagement will ensure more prompt returns and fewer bad accounts.

Another reason I should say would be on account of booking so large a proportion of the business; returns so slow and irregular, that one cannot depend on his cash receipts which, of course, are his real income. A stated and regular income better enables a man to calculate his expenses and also to make greater accumulations.

Some people make the excuse that a professional man is always a poor business man, but I don't think the excuse will stand. A very large number who enter the dental profession possess a commercial training in some other line before entering; but if they do not, I claim that the intelligence and brain which gains a man's entrance to a profession will give him the aptness to acquire a knowledge of business methods and apply them to himself.

Others say that a dentist's money comes easily and goes easily. I differ here also, and say that a dentist dearly earns all he can reasonably charge. There is no labor more exhausting or wearing than standing hour after hour at a dental chair, to say nothing of the extra strain on one's system when the patient happens to be a nervous and irritable one.

What is the proper treatment for this very pronounced pathological condition, if I might so term it? I would suggest, first, the adoption of cash for the credit system, or as nearly so as possible. One cannot always get cash, and it would not do to demand cash in every case; but I think if it were generally agreed in a community to ask for and expect cash, a vastly greater percentage would be received. And work which had to be charged should be done so on a prearranged plan of payment, that is, to be paid in an agreed time. In addition to this, I would suggest that as far as possible a uniform fee for certain operations should be agreed upon by the members of the profession in different localities or at least an agreed minimum fee.

Second, an habitual and systematic saving or laying away of a stated proportion of every dollar of cash received. This may be better advice to the younger members than the older ones; but if the latter have never formed such a habit they will pardon me if I say it is never too late to mend.

This plan is perhaps a primitive one, but if you are not naturally of an economical nature, and few are, the only way to save money is to go back to first principles, and form a habit of saving by a system. You all know the force of habit; there are good as well as bad habits, and the good when once formed are just as strong as bad. The habit suggested above is a good one; try it.

Gentlemen, all are too well aware that the years of a dentist's greatest activity and usefulness are few in number. A lawyer or physician may be doing his largest business at 60 or 65, while a dentist has seen his best day long before, and he finds his once large and lucrative practice considerably in the hands of newer and younger men.

We cannot get past the claims of family and old age, and provision should surely be made for these when health and vigor are ours. By the adoption of such plans and habits that will insure this provision, not only do we help improve the standing of the profession in general in the regard of our fellow men, but when time has dimmed the eye, care furrowed the brow and silvered the hair, a lifetime of hard labor stooped the form and caused the once delicate touch and firm hand to become trembling and weak, we will have the satisfaction of knowing that the years of decline and adversity have been foreseen, and when death shall call us to "that bourne from whence no traveler shall return," our memory will be held sacred in the love of wife and family who are not thrown on their own resources in a cold and unfriendly world.—*Odontographic Journal.*

DENTAL AND MEDICAL INFECTION.

In the July (1895) number of the *Montreal Medical Journal*, an article appeared with the rather sensational heading, "Infection in the Dentist's Chair," descriptive of the case of a housemaid, who was admitted to the General Hospital a month after she had three teeth extracted. She complained of "sore throat and sore gums, and tender, painful teeth," not a very rare experience, under the circumstances. A week after she was admitted, she died. The case was reported—as the result of the autopsy—as one of septic infection, and without actually knowing anything whatever of the facts as to the condition of the instrument used by the dentist, and without investigating the circumstances preceding the girl's entrance to the hospital, the startling accusation was made that the infection was caused "in the dentist's chair." A reply was sent to the editor, but it never reached him.

Reasoning from analogy, the author of the reply endeavored to show that the possibility of infection in the dentist's chair, or from the dentist, was very much less than from the general physician, especially if he practiced surgery, and from general hospitals; and an article by Professor Fournier, of Paris, in a recent medical journal, so well expresses and exposes this position that we take the liberty of making extensive quotations. It is an undeniable fact that physicians do infect patients in various ways—through the hands, through instruments, through transportation of organic substances from syphilitic organisms to sound organisms, and through the clothes. Professor Fournier's article is confined to syphilitic infection. He shows that by digital examinations—and quotes facts—that syphilis is conveyed by direct transportation, as it were, and refers to an epidemic of syphilis in the eighteenth century which originated through a syphilitic midwife, who continued practice despite the lesions upon her hand. Referring to instruments, Professor Fournier specially blames the bistoury, the lancet, the accessories used in applying simple or scarifying cups (glasses, razor and scarifier), the probe, the speculum, the Eustachian catheter, the tongue depressor, the laryngoscope, and the various articles used in surgical dressings —lints, sponges, linens, etc.

"Side by side," says the writer, "with the speculum may be placed the tongue depressor. The mouth is examined on all possible occasions in dental diseases, in throat maladies, etc., and thus may become the focus *par excellence* of syphilitic contagion;

the least inattention may prove disastrous. After examining the oral cavity of a syphilitic, full perhaps of mucous plaques, the tongue depressor is laid aside without cleaning, and is forgotten; another patient comes in whose mouth is examined by means of the same implement, and infection is the result." Professor Fournier exposes, too, the dangers from the use of nitrate of silver pencils, which are now interdicted in French hospitals. Skin-grafting, vaccination, etc., come in for their share of condemnation in the same relation.

Quite as important as any causes of infection, are those which occur from the physician to the patient, and *vice versa.* The physician may be infected in the face and in the hands by direct contact with the contaminating pus, or by contact with the globules of sputum projected from the mouth or throat of the patient. Physicians are exposed to a "veritable rain of salivary globules" while cauterizing the throats of patients, as small-pox and syphilis have both been contracted in this way. "Manual chancre is the medical chancre *par excellence.*" This may arise during operations on the penis, vaginal examinations, obstetrical manoeuvres, operations on syphilitic subjects, also wounds received during autopsies.

It is a sad and startling fact, that professional syphilis is not uncommon, contracted in practice. It appears to be more dangerous to life than that ordinarly contracted, because, as Professor Fournier argues, the physician is morally depressed, is overdriven, and is inadequately treated. "A man of the world may contract syphilis, become pre-occupied and wretched, but we can console and reassure him by all manner of specious arguments. The physician, on the contrary, knows too well what the malady means, and the danger that will menace him in the future."

The possibility of infection of various kinds from house to house conveyed by the family physicians; the difficulty of excluding it invariably from hospital practice; the slovenliness of some practitioners, who proceed from surgical to obstetrical cases, and whose ether and instrument bags will frequently not bear inspection, which the chair, the instruments, the linen, or the person of the average dentist will stand, should make medical critics of "dental infection" think twice and investigate fully before, from glass houses, they throw stones.—*Editorial in Dominion Dental Journal.*

NATIONAL DENTAL MUSEUM.

[This article, by Dr. D. L. Huntingdon, Deputy Surgeon-General, U. S. A., is reprinted here as of interest in connection with resolution of New Jersey State, to coöperate with other Dental Associations in an effort to increase its scope and usefulness.—ED.]

Previous to the late Civil War, the Library of the Surgeon-General's Office was composed of a few hundred books on medicine and surgery and collateral branches; very much such a collection as might naturally collect in the office of the chief of an important bureau.

Few additions were made to this collection until the year 1865, when Dr. John S. Billings, then an assistant surgeon of the army, was detailed to take charge of it. Dr. Billings at once recognized the value of the opportunity thus presented for laying the foundation of a great national medical library. As a result of his energy, knowledge and judgment, we have to-day the magnificent Library of the Surgeon-General's Office.

In the earlier years of its growth this collection was placed in the old Ford's Theatre building, which, after the tragic assassination of President Lincoln, was purchased by the Government and turned over to the medical department of the army for the use of the Library and Medical Museum.

Aided by liberal appropriations from Congress and directed by the energy and perseverance of Dr. Billings, the growth of the library has been phenomenal. In a few years its constantly increasing size and value, as well as the continual menace of destruction or damage by fire in the old and exposed building, made it imperative to provide secure and ample accommodations elsewhere.

In 1886 Congress passed a bill appropriating the requisite funds for the erection of a spacious fire-proof building. This building, located near the National Museum and Smithsonian Institution, was completed and occupied in 1887. From that date to the present time its growth has been continuous, until it has now come to be acknowledged "the most complete medical library in the world," containing on its shelves to-day about one hundred and twenty thousand volumes of bound books and about two hundred thousand phamphlets, together with a most valuable collection of atlases, of plates and engravings illustrating anatomy, surgery, physiology and obstetrics.

In its general scope the library is intended to cover the entire field of medical and surgical literature, making it possible for

the student to avail himself of the writings and teachings of all countries and all times, with the least possible loss of time and labor. While intended mainly as a reference library, a certain latitude is observed by the management with a view to making it as useful as possible to the medical profession, and especially to students and writers, by loaning to well-established medical societies and libraries of prominent medical colleges such books as may be called for, upon the condition that these bodies will guarantee the care and return of books loaned, and be responsible for all losses and damages which may occur.

Rare and valuable books and manuscripts, plates, unbound books and theses, whose loss cannot be easily replaced, are not loaned.

Connected with the library is a reading-room, where all the current journals and periodicals are kept on file for the convenience of those desiring to consult them. To those making special studies in any line of the profession we are prepared to afford all possible facilities.

The annual list of journals and periodicals subscribed for and received at the library amounts to over eleven hundred, and embraces all subjects pertaining to the literature of medicine at home and abroad. The machinery for the increase of the library is complete. Through agents in all the principal cities of the world, we are constantly receiving not only the current and latest medical literature, but frequently have the opportunity to secure rare and valuable works of past centuries. The appreciation in which this library is held is best evidenced by the frequent and large donations of books and phamphlets from every source, among which are many duplicates of works in our possession, which afford us the means of obtaining desirable additions through exchange.

The library receives its main support from the liberality of Congress. Since the year 1867 up to the present time, the appropriations of this body for the support of the library have averaged about seven thousand dollars annually, which enables us, with a fair degree of certainty, to keep our journal files complete and make very considerable additions of new books, as well as insuring a small annual amount for the purchase of old and rare books and curiosities of medical literature. The practical value and utility of this collection is proven daily by the members of the profession, who make regular use of the facilities offered —by the interest shown by medical men from the United States and from abroad. The reading-room is constantly occupied by

readers, students and investigators. This vast wealth of medical literature is made accessible to the profession through the medium of the Index Catalogue, which is at present comprised of sixteen large octavo volumes of about one thousand pages each. This work was begun in 1879, and has progressed continuously at the rate of one volume per year. The catalogue is arranged by authors and subjects, and may fairly be considered "as practically an index to all the medical literature of the world up to the end of this century."

The large accessions of material since the publication of any one of the volumes are carefully carded, and will appear in a second series of volumes, the first of which is now in the course of preparation, to be followed by as many more as may be required, and dependent upon the continued liberality of Congress. A comparatively small edition of these volumes is printed, and is distributed mainly to medical libraries, medical colleges, and to certain of the larger public libraries of the United States and Europe.

By reference to this Index Catalogue, Vol. III, 1882, under the proper heading of "Dental," "Dentists," and "Dentistry," you will find not less than six closely-printed pages, or thirteen columns, referring to works and journals under these captions. Since the publication of this volume, the additions to the library on these subjects have been very large, and will be printed in their proper volume of the second series.

Of journals and periodicals pertaining to dentistry, our list embraces all of the best throughout the world, and from our agents we are continually receiving the latest works on the subject.

The Army Medical Museum, occupying the eastern wing of the building already alluded to, is also of comparatively recent origin, and owes its existence to ex-Surgeon-General W. A. Hammond, who, in 1862, issued a circular stating that it was "proposed to establish in Washington an Army Medical Museum," and directing medical officers of the army "diligently to collect and forward to the office of the Surgeon-General all specimens of morbid anatomy, surgical and medical, which may be regarded as valuable; together with projectiles and foreign bodies removed, and such other matters as may prove of interest in the study of military medicine and surgery." The response to this circular was immediate and gratifying. From the large general hospitals and from the battle-fields, as well as from private sources, came extensive contributions to this enterprise, so that a

catalogue, printed in 1866, showed a collection of 7,716 specimens of all kinds. To the administrative ability and personal interest of Surgeon-General J. K. Barnes we are indebted for the successful establishment of this museum on a permanent basis. Succeeding Surgeons-General have manifested similar interest in perpetuating and fostering its growth.

To. Drs. John H. Brinton, J. J. Woodward, George A. Otis, J. S. Billings, and others are due its scientific value and importance, each of these gentlemen having given time, care and learning in building it up to its present condition.

On the completion of the new library and museum building, this collection was transferred from the old Ford's Theatre building, with the library, to its present spacious and secure quarters.

At the present time the collection contains over 33,702 specimens of all kinds, which may be divided as follows:

Pathological, 12,164; human anatomy (normal), 4,470; comparative anatomy, 1,717; microscopical specimens, 12,457; medals, 1,205; instruments and apparatus, 1,044; microscopes (showing evolution of the instrument), 188; miscellaneous, 457.

The annual addition of specimens in all the above lines is large and constantly increasing.

Connected with the museum are extensive pathological and bacteriological laboratories, which serve as important feeders to the main collection.

It would be useless and tedious to enter upon a detailed description of this collection; it must suffice to say that as a storehouse of the results of military medicine and surgery of thirty years ago it is probably the most unique and valuable collection in the world, affording a curious and interesting comparative study of methods and treatment of that period with the advanced views and practice of to-day.

But this museum is not solely a receptable for the results of the work of the past; it has kept well abreast of the times, and presents in its later accumulation the evidences of the advance of scientific medicine and surgery. Departing from its original limitation to military medicine and surgery, our museum has greatly extended its scope, and now includes the departments of human anatomy and osteology, physiology, embryology, pathology, and anthropology, with illustrations of the methods of research connected with all the branches of practical medicine.

As will be seen by referring to the classification of specimens, we have made the largest use of photography and micro-photography in illustrating tissues and structures of the human body.

Within our miscellaneous department are included models for the study of veterinary medicine and surgery, and some space is devoted to prosthetic apparatus, and to instruments and appliances used in the several departments of medicine and surgery; in fact, we desire by this museum to effect through object teaching that which is secured in the library by written works and treatises, viz., a thorough illustration of the science of medicine as it is found at the present day.

In this very brief description of the museum and its scope I have hardly done more than give to it a "certificate of character," for I feel that I must not encroach too much upon the time which has been so kindly allotted to me, and I now desire to come to the point of what I have to say relative to dentistry.

Our museum is not so well-furnished with material relating to your possession as is our library. The collection of books and journals is a part of the library management, and it is our care to see that the several departments of medicine are well and harmoniously rounded out.

Books and journals we can obtain by purchase; specimens pertaining to your daily work, illustrative of normal and morbid dentition, and of diseases of the oral cavity, we cannot make, nor can we always buy; therefore I appeal to you, individually and collectively, to manifest not only sympathy in the proposed movement, but to give evidence of a practical interest by contributions, that we may be able to erect within our hall an exhibit of dentistry which shall be worthy of your profession.

By gifts and by limited purchases we have already what may be called a nucleus for such an exhibit. We have sufficient space and all the facilities necessary for the purpose, and all we ask is the material. Look through your private collections, and separate such specimens as, in your opinion, would be appreciated by your dental brethren if placed where they could be seen and studied. Throughout this country there must be thousands of such specimens, which, if collected in one place, would form an unrivaled exhibit, to say nothing of their value as means of instruction to the student and investigator.

You may ask me what we especially desire for this exhibit? I would suggest casts, photographs, and specimens of normal, morbid and anomalous dentition, of diseases of the maxillae and oral cavity; photographs and casts of surgical operations, prosthetic apparatus of all kinds used in your work, new instruments, and specimens of mechanical work, and any miscellaneous material which may lend an interest to the subject of dentistry. All

specimens intended for the museum should be accurately labeled and accompanied by a concise description and history of the case, when possible.

Do not be deterred from making contributions on the ground that we probably have many such specimens as the one proposed to be sent. Of all things we need duplicates, not only for inter-comparison, but for the purposes of exchange with other institutions, whereby both our own and others are benefited.

It is not necessary that you should attempt to mount your specimens; send them to us as they are, and they will be prepared and mounted by our pathologist.

Neither is it necessary that freight or express charges be prepaid; address your contributions to the Curator of the Army Medical Museum, Washington, D. C., and they will be received and cared for.

So soon as the number of contributions relating to the subject of dentistry will warrant, it is the intention of the management of the museum to collect them together into one department, where they can be exhibited and studied to the best advantage; it is also proposed to appropriate a certain amount annually for the purchase of models, preparations and appliances pertaining to dentistry.

In common with medicine and surgery and their collateral branches, dentistry has made great strides of advancement during the last quarter-century. Your methods of instruction and training have constantly improved; your text-books and treatises are becoming fuller and more complete; your journal literature abounds in thoughtful, live articles, showing a just appreciation of the demands of the age, as well as of the necessity for basing the superstructure of your specialty on the broad foundation of a thorough knowledge of general anatomy, physiology and pathology; your professional future promises still greater advance and progress.

Now, in what way can our museum contribute to your professional benefit? I would answer that such a collection is an educator; a means for the diffusion of useful special knowledge. Within our walls you will find a record of what has been done and what is being done. It is the function of the museum to preserve this record for all time. By the study of its collection you will be enabled to make comparison of the methods of practice and the modes of thought of your professional co-workers; to enlarge your knowledge of normal and abnormal and anomalous development; to study pathology in forms which may not have

previously met your eye; finally, to enlarge generally your powers of observation and widen your views.

It has been a fundamental idea in the origin and development of this museum, and especially with my predecessor, Dr. Billings, that this collection should be not merely a repository of the curious and interesting in medical science, but also a school for the demonstration of methods of research for the benefit of investigators and teachers.

It is for this purpose that I ask your interest and action in carrying out the spirit and intent of the resolution of the American Dental Association, by assisting us to build up a creditable exhibit of your specialty, which in time shall be an important and invaluable aid to your students and practitioners.

As I have before said, you shall have the cordial coöperation of our management in making this department equal to any other of the museum; and, in closing, I heartily invite you, during your session in this city, to visit both the library and the museum, and see for yourselves what can be but imperfectly described in so limited a time.—*Cosmos.*

INFILTRATION-ANESTHESIA IN DENTISTRY.

By C. H. Frink, D. D. S., Lake City, Florida.

The dental profession has been slow to approve of the use of local anesthetics for many reasons, chiefly among these the danger of systematic poisoning from cocaine, which nearly all contain in a greater or less degree.

It has been shown that the injection of simple water into the tissues, producing artificial edema, will induce local anesthesia. Dr. C. L. Schleich, an eminent surgeon of Germany, after a series of experiments found that a solution of three grains each of cocaine muriate and sodium chlorid, two-fifths of a grain of morphia muriate, and three fluidounces of sterilized distilled water, had very marked anesthetic properties. The anesthetic is now being used with great success in all parts of the globe. It may be observed that this solution contains only one grain of cocain to the ounce of water, and, were it necessary, an ounce could be injected into the human system with impunity.

In using this anesthetic for the extraction of teeth, it is necessary to force as much of the fluid as possible into the adjacent tissues. In order to do this the needle should be inserted sev-

eral times, keeping it, in most cases, parallel with the long axis of the tooth. This will allow deeper penetration of the needle and permit a greater quantity of the fluid being injected. A small crystal of cocaine, applied at the point of the first insertion of the needle, will render the injection of the solution painless. The effect of this is to produce a small circular area of a whitish appearance when thoroughly anesthetized. Each subsequent insertion should not be made outside of the anesthetized portion or wheel formed by the previous injection. When a sufficient quantity is injected, the tissue should assume a whitish appearance. The operation may be performed immediately.

The possible hypnotic effect of such a procedure before extraction is beneficial, as many patients feel much safer and are in a much better condition to undergo the operation when they observe that some step has been taken to lessen the pain.

This subject should be investigated by every conscientious dentist. We owe it to our patients that every method not endangering life be used for the alleviation of human suffering.—*Cosmos.*

INCIDENTS OF OFFICE PRACTICE.

By Dr. Henry Pirtle.

In presenting these few incidents which have come under my notice, I have not arranged them in the form of a paper, and do not relate them because of their merits, but give them with the hope that they will incite other members of this Association to report unusual cases.

The first case is that of an impacted third molar. In November, 1890, a medical student came to me with the left inferior third molar badly impacted. It was a very severe case; his jaw being considerably swollen, and the inflammation so great that he could not open his mouth more than half an inch. I washed out the pocket as well as I could with peroxide of hydrogen and hot water, and treated it otherwise also. I thought it was doing as well as could be expected, but he was impatient for it to get well, so he had one of his professors lance the jaw on the outside, just below the ramus. This allowed the pus to discharge, but it also left a very ugly looking scar.

In March, 1891, I extracted seven anterior lower teeth for a gentleman eighty-six years of age. This is the oldest person I have ever done any extracting for.

May 27th, 1891, I had the misfortune to break off a drill in each of the buccal roots of a left superior molar. I mentioned the fact to the patient, telling him it would be very difficult to remove them; he said to leave them alone, that he did not believe they would do any harm. As the canals were in a healthy condition, and the drills some distance up in them, I concluded to let them remain and see how the tooth would act. So I filled the remaining portions of the canals and filled the cavity with alloy. I have frequently seen the patient since, and he always remarks that it is the best tooth he has in his head.

In September, 1891, I extracted for a lady patient several teeth, the roots of which were very long. On attempting to remove the left superior cuspid, I broke it off about a quarter of an inch above the gum margin, it seeming to just fall apart, and the entire pulp fortunately came out with the part which broke off. Upon examination, I concluded that there was about half an inch of the tooth left in, and, as it seemed to have a bend in the root, I thought it best not to pain the lady by trying to gouge it out. After checking the flow of blood I succeeded in filling the canal with gutta-percha points. I suppose the root has never given any trouble, as the patient has not returned, except to have a plate made, although I asked her to let me know if she ever experienced any pain.

In January, 1893, a gentleman came to me suffering with a terrible pain between the left superior second and third molars. He insisted upon having the third molar out, although it was sound. Upon extraction I found that a small piece of wooden toothpick, which had been broken off between the teeth, had caused all the trouble.

January 1st, 1894, I crowned the root of a right superior cuspid, which was so badly broken down that I had to build it up with amalgam. When I examined the root I found that it was decayed almost up to the process on the labial and anterior approximal aspects, besides being decayed up the canal and abscessed. After treating the root and getting the abscess healed, I inserted a post in the canal and built out the root just below the gum margin, then fitted the crown, and at last reports it was doing nicely.

In March, 1894, while doing some dental work for a young man, I observed that the right superior first molar was almost decayed away. I examined it and found that the anterior buccal root was separated from the other two. The pulp chamber was decayed through in two places. The only portion above the gum

was a very small bit at the posterior buccal side. I requested the patient to allow me to experiment on the roots and see what I could do with them. After treating the roots and filling the canals, I put a post in the anterior buccal and palatine roots. With the assistance of these posts I built up an entire crown of amalgam upon the stump. I saw the gentleman recently, and was told that the work was holding out well.

Since I commenced practice I have seen two lower molars with four root-canals.—*Dental Digest.*

PULPLESS TEETH, ROOTS, AND THEIR TREATMENT.

By Adam Flickinger, D.D.S., St. Louis, Mo.

Probably no single topic of the busy dental practitioner of to-day is receiving such earnest and thoughtful consideration as the treatment of pulpless teeth. For the past few years, even a casual reader of our numerous dental periodicals cannot have failed to observe the large amount of space devoted to treatises upon this important theme, which has been discussed from time to time by the dental societies throughout the land.

Roots, with proper therapeutic treatment, may be made to give service for years, in retaining the natural expression and contour of the face, by being crowned or used as piers for bridge-work.

This latter class of work, when properly constructed, is undoubtedly the most artistic and valuable substitute yet devised. For natural appearance, comfort, and stability it is unapproached by any other system of artificial teeth; especially so, if constructed on a plan which allows its easy removal for examination and the addition of such other work as may become necessary.

A proper preparation of the roots and teeth is, however, imperative, for upon this the future success of this class of work depends, and its importance cannot be overestimated.

In referring to the treatment of teeth and roots to be used for abutments and piers, or for crowning, I shall presume that we understand both those whose pulps have died (through some of the various causes) becoming putrescent, and those whose pulps have become exposed and must needs be devitalized. While I may not present a system entirely new in the treatment of the former, the method of its application is certainly not old, and if carried out carefully in detail it will be successful in the majority

of cases, causing less annoyance to both patient and operator, by recurring inflammation, ulceration, etc., than any other method I have practiced.

The first step in the treatment of teeth in this condition is to gain free access into the pulp-chamber and canal or canals; then, in order that I may not force any of the contents through the apical foramen (causing additional trouble frequently harder to combat than the original one), I remove the contents carefully, using a nerve instrument "home-made for the purpose," washing with warm water, and the sulfuric acid treatment so often described. In cases of tortuous canals much can be accomplished by sealing into the canals a ten per cent. solution of the acid for a day or so.

Having obtained a free and unobstructed passage, I apply the dam or other means of keeping the tooth perfectly dry, proceeding, if any abscess exists, with the beechwood creosote treatment, pumping it up and into the canal until it makes its appearance through the fistulous opening, after which I apply an electric wire attached to the alternating current and controlled by Holekamp-Moore, Grady & Co.'s alternating current controller, gradually increasing the heat in the ratio of thirty-four degrees to the minute. I then proceed with thymol or cassia, preferring the former for the anterior teeth, and apply the current again and again until every particle of oil is absorbed by the tooth.

When applying the current to the oil you will observe minute electrical sparks flying in all directions; the heat alone should be sufficient to destroy microbes, bacteria or any other kind of germs present.

I then fill the upper or apical part of the root with the following preparation, in the form of a paste composed of alum, thymol, glycerol, oxide zinc. Placing a small piece on an old broach with barbs removed, I work it up, not being over-particular how far; then take a small piece of heated gutta-percha, force it into the canal, which drives the preparation ahead, thoroughly filling the canal and sealing it better than any other preparation with which I am familiar, not excepting chloro-percha, oxyphosphate, wax, paraffin, etc.

For teeth and roots containing putrescent pulps, with no external opening or abscess, I use the same treatment, discarding, however, the creosote or carbolic acid, and proceeding with sulfuric acid, oils and electric wire.

This method I have adopted in all cases, have used it in all conditions and stages of inflammation and ulceration, in acute

and chronic cases. I have treated and filled root and tooth immediately where a slight periosteal inflammation and swelling of the face still existed. In one case the tooth was so sore to the touch that it was impossible to use the mallet, yet I filled the root as described, and the tooth with gold, by hand-pressure; and to the great satisfaction of both myself and my patient the swelling and pain subsided after twenty-four hours, and to this day the tooth is doing well.

I may be accused of having gone to extremes, but so far the results have been so favorable that I feel the ends have justified the means.

In regard to mummifying pulps with the preparation of alum, thymol, glycerol, and oxide zinc, and acting upon the suggestion of Dr. Söderberg to "observe, compare, reflect, and record," I may state for the benefit of others that it is possible to mummify a pulp. I have experienced for years, and have succeeded in a great many cases with a preparation of arsenious acid, menthol, thymol, and glycerol. In 1877 I treated three first permanent molars with this preparation for my wife. After nine years it became necessary to crown two of them. Without disturbing the former treatment, I placed gold shell crowns over them, and to this day the three teeth have never given any trouble whatever.

Since the publication of Dr. Söderberg's article, I have concluded to use the preparation in the proportion he suggests for the purpose of pulp-mummification, but hesitate to go to the extreme which he recommends, viz., to remove the contents of the pulp-chamber *only*, leaving the canals untouched.

I have observed in my many experiments during the past twenty-three years with preparations too numerous to mention, that it is advisable to remove as much of the pulp as can easily be reached, though not necessarily all, mummifying the remainder. In fact, I think the day is not far distant when it will be an accepted fact that the successful treatment of devitalized teeth does not depend upon the complete removal of the pulp and the filling of roots to the apex, as is claimed to be imperative.

Science in general is making wonderful progress; why should we not solve this problem?—*Cosmos*.

BRAIN SURGERY.

M. Vitzou's experiments with monkeys' brains, which show that removed portions regrow, is nothing new to advanced cerebral physiologists and brain surgeons in this country. The French scientist's conclusions are simply confirmatory of the operations which have been performed in the United States upon man himself.

The foremost Americans in this marvelous field are Dr. Elmer Gates, of Washington, D. C., and Professor William W. Keen, of Philadelphia.

Gates has, by methods peculiarly his own, thought out and acted upon by himself, made dog brain centres develop where they were not in evidence before. He has made good watch dogs, and good hunting dogs, and good running dogs, out of simply average material, and now that he has an official position in Washington, he is effecting the same sensational development for the human family itself.

I have met him and talked with him. He is a young man as yet. He has a splendid physique and a strong, determined, intellectual development.

Dr. Keen, of Jefferson Medical College, in Philadelphia, is one of the most daring and brilliant surgeons of the day. His surgical knowledge is founded on a wide practical acquaintance with cerebral anatomy and physiology.

Dr. Keen has removed various motor centres in the brains of many patients at the Orthopedic Hospital for epilepsy and kindred diseases. In all cases the course of the disease has been either modified or stopped. The results of his operations have shown that a thumb centre or a wrist centre or an arm centre removed on account of disease regrows in time, and, barring an inherited tendency to disease (for the parts of the brain inherit habits formed by their progenitors, just as children inherit habits and physical conditions), perform their distinct functions more or less normally—more normally if the original centre is removed early in the course of a disease, and less normally if removed after the habit of disease has been once firmly established.

Until a period considerably after the middle of the present century the human brain was regarded as a single organ, like the stomach or liver, with only one function—thought. The localized centres, exploited by phrenologists, were absolutely discredited by reputable physicians.

When the brain acted it was thought that the whole of it acted. * * * Now we know that instead of the brain being a unit, it is really a very complex organ.

DUE TO VIVISECTION.

Besides the centres concerned in sight, smell, thought, etc., we have certain adjacent portions which are concerned in motion. One produces motion of the face, another motion of the arm, a third motion of the leg, a fourth motion of the trunk.

This great advance, this far more intimate understanding of the varied functions of the brain and their accurate localization, is entirely due to the much-belied vivisection of lower animals, particularly that of the dog and the monkey. These animals have been etherized and particular portions of the brain either removed or electrically excited, causing certain fixed areas of the body to become either paralyzed or to be instantly aroused into acute muscular action.

Operations upon the brain give rise to little or no pain, and the animal subject is just as tenderly cared for during the progress of the experiment as is man, and every measure fostered to mitigate subsequent distress and hasten complete recovery

The motor centres in the brain of the monkey are identically located with those of man. The central nervous system consists practically of ingoing fibres from the various organs of sense, and of nerve cells for receiving and retaining impressions obtained from these fibres. By some not as yet explained power of coördination, these cells combine these impressions, and evolve new combinations of them, which are manifested to other individuals by impulses sent through a set of outgoing fibres to the various organs of motion.

One is taking a walk through a garden. An exquisite rose, the finest on the bush, greets the eye. Its color flies to the brain through the nerve of sight. An impulse is sent out to the hand to pluck it. And from the association already existing in the mind between a rose and its fragrance, another message follows rapidly the message to pluck, *i. e.*, the message to raise the flower to the nose and smell it.

This accurate localization of the various functions of the brain has been of inestimable value to the modern surgery of that organ. Here is a case in point, occurring in the practice of Dr. Seguin, of New York.

A gentleman, thirty-nine years old, who had always been perfectly healthy, arose one day to go to the window. While he

was standing there his wife noticed a slight spasm of the right cheek and neck, which did not involve the arm. Nor was his consciousness lost. Four years later, two or three similar attacks having occurred in the interval, he fell to the floor one day unconscious, and bit his tongue. These attacks were all accompanied with twitching of the right arm and hand, and of the right side of the face. His memory grew impaired, and his speech thick. No injury had ever been received on his head, nor was anything abnormal observed when his head was shaved.

Gradually his right hand and arm became weak, and as a result his handwriting grew irregular and indistinct. This weakness of the right arm slowly increased, and along with it appeared a weakness of the right leg. As a consequence of the increasing paralysis of his face, drooping at the right side of the mouth set in.

Dr. Robert Weir saw the gentleman at Dr. Seguin's request, listened to his recital of the various symptoms, and particularly noted their relative dates of occurrence. Then he proceeded to think out the exact location of the tumor.

And so exact did Dr. Weir regard the symptomatic data in their bearing on the well-ascertained facts of brain localization, that on the day fixed for the operation he trephined the skull at a point over the junction of the arm and face centres, cut boldly into the brain substance, and from its interior removed the tumor by means of a small surgical spoon.

The gentleman made a rapid recovery and was living five years after the operation. He eventually died from a recurrence of the same malignant growth.

Another extraordinary case occurred in the practice of Dr. Keen, of Philadelphia, and was operated upon by him. It was that of a girl of twenty-one, who had been subject to epileptic attacks for two and a half years. These attacks always began in the right thumb. This fact having been verified, it was determined to remove the "right thumb centre" in the brain.

It was decided to remove only the thumb and not the hand centre. This was an unusual and minute attempt at practical brain localization, and a very severe test of the mapping of the brain by vivisectionists. The fissure of Rolando was first located exteriorly on the outer surface of the skull by geometrical methods, now commonly known to surgeons, and a disk of bone an inch and a half in diameter removed. The fissure of Rolando was seen crossing the middle of the opening downward and forward.

By a battery the brain was stimulated at certain definite points until the thumb centre was recognized, and also the face centre, which lay somewhat below it, and the wrist centre, which lay a little above it.

Stimulation of the thumb centre produced a typical epileptic fit, beginning in the thumb. A piece of brain substance (the thus directly localized thumb centre) an inch in diameter was removed.

It was decided by the use of the battery that the piece removed was the whole of the thumb centre. The patient recovered promply, and without disturbance, from the operation. She had no more epileptic fits.

And what was even more wonderful, neither shoulder, elbow, wrist or hand, sensation or movement, was in the least impaired, which would have been the case had the wound of removal invaded, to the slightest degree, the continuity of any of these arm centres in the brain. As a feat of neat, scientific, modern surgery, this case will simply stagger the imagination of one who thoughtfully examines its particulars.

It was not a brown speck that was to be carefully cut out of an apple (to employ a vulgar simile), for there was no difference in color to guide the cutter, but there was a certain portion of the apple which was of perfectly natural hue, but was bitter, and this had to be all neatly removed without leaving any of the bitter behind, or including any of the sweet surrounding tissue in the portion excised.

Very remarkable operations have been performed in this country upon animals, which will some day soon be reperformed upon man himself.

The heads of two dogs have been opened under an anaesthetic and bits of the brain of the same size removed from each dog and transferred to the other.

These pieces have grown in place and have given rise to no brain mischief. Some day, when the arm centre of a man has been removed in the shape of a tumor, or has been destroyed by a bullet wound, it will probably be possible to take the same centre from a dog or a monkey and transplant it into the human brain. The motor cells in an animal's brain are known to subserve exactly the same function as the motor cells in the human brain.—*Exchange.*

NOVEL OPERATION ON THE EYE.

Professor Deutschmann is one of the best known and most eminent oculists of Germany, and among the prominent oculists of the United States are many young men who were his pupils.

For over a year he has been experimenting in transfusions of liquid from the eye of a living rabbit to that of a human being. All of this work was, however, performed by the Hamburg oculist in the privacy of his laboratory.

It is only now, when the success of his daring and novel experiment has been demonstrated, that he consents to disclose the simple facts. The first news of his discovery reached the oculists of the United States through a brief special cablegram from Berlin on July 30.

It stated that Professor Deutschmann had cured cases of blindness caused by injury to the retina by substituting parts from the eye of a rabbit. This statement was received with incredulity by the oculists of New York.

Up to the present time there are six people in Hamburg whose eyesight have been saved by Professor Deutschmann through infusion from the eye of a living rabbit. Upon one of these patients the operation was tried successfully on both eyes.

This makes seven operations in all performed by Professor Deutschmann according to the new method, and in each case it has been a success. The patients, who had been nearly blind, and who were certainly threatened with final loss of the diseased organ, have now been enjoying the best of eyesight since the operation was performed.

From four to twelve months have elapsed in each of these cases. There has been a steady improvement since the time of the operation.

Professor Deutschmann thought it best to wait this length of time before disclosing any of the facts, so as to be assured that there would be no final relapse. The cure, instead of being temporary, is now regarded as permanent, and this new and surprising operation will probably soon spread to all parts of the earth.

As described by the assistant of Professor Deutschmann, the new operation is as simple as it is startling. Professor Deutschmann does not attempt to replace a diseased retina, nor does he claim that he can substitute the retina from a rabbit for that of a human being.

At the same time he does not hesitate to operate on the retina itself by making such incisions through it as may be necessary to assure the success of his process. He has found that blindness frequently ascribed to disease of the retina is in reality often caused by a detachment of the latter.

Such detachment and shrinkage of this delicate membrane result from absorption of the vitreous humor which constitutes nearly nine-tenths of the body of the eye itself. This vitreous humor is enclosed in a sac, making what is commonly called the eye-ball, and through it the image passes from the lens to the retina.

The latter is retained in place by the full rounded body of the sac of vitreous humor. When this vitreous humor loses its normal volume through absorption, the retina stretched around it shrinks, having no support of its own, and thus the sight is finally destroyed.

A great number of disorders of the eye belong to this class. Blood diseases, hemorrhages, excessive mental work and nervous disorders are some of the initial causes leading to absorption of the vitreous humor, with consequent detachment or shrinkage of the retina and resulting blindness. The great discovery which Professor Deutschmann has made is that the deficiency of vitreous humor in the human eye can now be supplied from the eye of a living rabbit.

The transfusion of vitreous humor from the eye of the rabbit to the eye of the patient on the oculist's operating table is accomplished through a simple rubber tube. Before this is done, however, the most delicate kind of eye surgery is necessary.

The operating surgeon cuts into the sac of vitreous humor in the eye of his patient with a steel canula. This cuts through the sclerotic, through the choroid and through the retina.

The eye-ball of the patient is turned down so as to expose as much of the top surface as possible. The cutting is done from the top, in a place that is never seen under normal conditions.

An assistant holds a live rabbit, and with the steel canula he cuts deep into the sac of vitreous humor in its eye, which almost exactly corresponds with the eye of a human being in its construction and texture.

The eyes of rabbit and patient are then brought as close together as possible. A small rubber tube is introduced into both incisions, being pushed deep into the sac of vitreous humor in either case.

A gentle pressure of the finger upon the eye of the rabbit is then sufficient to pump the vitreous humor into the rubber tube and thence into the humor sac of the patient. In less than a minute the deficient quantity of vitreous humor can be made up from the eye of the living rabbit.

As the sac of vitreous humor in the human eye swells out with the infusion of a new liquid, the retina expands correspondingly. Thus it reaches its normal state, and the complete eyesight is at once restored.

To keep the eye in this condition is now the object of the surgeon. The rubber tubing is at once removed and the healing of the wound begins.

It will be seen that this astonishing operation does not in any way effect the appearance of the eye, and that no solid substance is transferred from the eye of the rabbit to that of the patient. What the rabbit loses is simply a transparent liquid, constituting about nine-tenths of its eye.

The whole operation can be performed in a very few minutes. In transfusions of blood a tube with a pumping bulb is used by surgeons. But this new operation on the eye is so delicate and the quantity of liquid passed through the tube so small that it is believed no bulb is necessary. Holding the little rubber tube between his fingers, the oculist can easily press the liquid into the eye of the patient.

Detachment of the retina follows the loss of a small quantity of the vitreous humor in the human eye, and blindness results when less than half of it has been absorbed. It is not claimed by Professor Deutschmann that cases of total blindness resulting from loss of the vitreous humor can be cured by his new method. Thus far the operation has only been resorted to for the purpose of averting such blindness.—*Exchange.*

A PLAN FOR A NATIONAL DENTAL ASSOCIATION DIVIDED INTO FOUR CO-ORDINATE DISTRICT BRANCHES.

By A. H. Thompson, D. D. S., Topeka, Kansas.

The expediency of uniting the various general dental organizations of the United States into one organic whole has been frequently proposed and discussed, but nothing so far has been accomplished as the outcome of these discussions. While the profession feels the need of one representative general organization

which shall be truly national and comprehensive, embracing the whole territory of our great domain, no plan has yet been proposed which seemed to fulfill the requirements. Such an organization must embrace the whole Union, it must be representative, and it must be brought within the reach of all members of the profession.

It has been conclusively demonstrated that it is impossible to convene in one great gathering at any one point at one time, and have a fair representative attendance. The attempt has always been unsucessful, and must forever remain so, on account of the magnificent distances in our great country and the time, fatigue, and expense involved in long trips. This will always prevent a large representative attendance from all sections in any one single meeting. This is observed in the meetings of the American Dental Association, in which the largest representation is always local.

Therefore the plan herewith proposed is designed with a view of obviating this one great difficulty, and yet to bring large gatherings within reach of all sections, that all the profession of all parts of our land may have the advantages of large gatherings and the valuable material they attract.

The plan is to have district organizations which shall be federated under one central organization, but which shall each meet within the limits of their respective districts at times so arranged that they shall not conflict with one another. By being confined within limited regions they can be readily reached by the profession of that region, and thereby insure larger attendance. Each branch will be representative of its own district—delegates being elected to it from the various State and local societies, as in the American Dental Association at present. Membership in one would be membership in all the other branches, so that a member could attend the meetings of any or all branches and be equally at home, like the members of a secret order, the district branches being comparable to the separate lodge organizations.

The district organizations would be united under a central organization and be coördinate parts of one organic whole. Each one will be in touch with every other one and with the whole profession through the central organization. This would consist of a president and a council, say of two members from each district branch. This council would be supreme as regards matters of government, but would not have power to legislate on questions of general importance without the consent of the branches. However, the division of power could be arranged between them

as might be for the best interests of harmony and simplicity. That, as well as other matters of detail, could be adjusted without difficulty.

The president of the central organization (or alliance, or association, or federation, as the name might be chosen) would be president of the whole organization. He should be a man of age in practice, who had served his profession well; of distinguished abilities, accomplishments, and achievements, who would be elevated to the position as a distinguishing mark of honor by the profession, one whom the profession "would delight to honor."

The presidents of the branches would be vice-presidents of the whole organization, and with the other necessary officers would be electd by the branches. They would be entitled to preside at any branch meeting, when present and invited to do so by the regular president of that branch. The general president, however, would have precedence at any branch meeting.

The whole United States can best be divided into four districts, the eastern, southern, central and western, each having its representative organization or branch, which would meet within its borders. There would be, first, the eastern (or Atlantic) district; second, the southern (or Gulf) district; third, the central (or Mississippi) district, and fourth, the western (or Pacific) district. It is noticeable that in three of these districts organizations already exist for the convenience of the profession of those districts, which would seem to indorse the feasibility of the plan. In the Atlantic region we have the present American Dental Association; in the Gulf region we have the Southern Association, and in the Pacific region we have the Pacific Coast Congress. These organizations are already complete, and would only need to accept the plan to become integral parts of the general whole. It would only remain for the profession of the Mississippi basin region to organize a branch to make the system complete.

The branch meetings should be held so as not to conflict with one another, at different seasons of the year. Thus, the Eastern branch could meet in summer (as the American Dental Association does now), the Southern in winter, the Central and Western in spring and autumn, as they might mutually arrange. There would thus be a branch meeting in each quarter of the year, and a member of one could attend all of the meetings, in which he would be entitled to all rights and privileges.

This is the plan in general, the details of which could be worked out to accommodate the general convenience, taking

care always to have it as simple as possible and not encumber it with too great a load of the machinery of government.

That there is an increasing desire for larger general meetings, distributed so that they shall be within easy reach of the mass of the profession, is demonstrated by the disposition manifested to organize "joint meetings," "interstate meetings," "dental congresses," etc., which shall attract larger numbers and thus make it worth while for men of talent to present their best work. The usefulness of the old-fashioned State societies is passing away, and their decline is due to the decline of the old-fashioned essay and clinic. The rambling essay of the amateur writer of former days is giving way to the highly wrought monograph of the specialist. The small attendance at the State meetings does not offer sufficient inducement for the specialist to present his best efforts, but he reserves them for the larger meetings. Hence, the latter are organized to attract him, and he in turn attracts a larger attendance, so that they react on each other. The State organizations must still be continued, however, for the business of the profession, dental legislation, etc., so that they cannot be dispensed with entirely. But the days of their scientific usefulness are numbered, for they cannot compete with the larger meetings in attracting the attendance and the specialists who make those meetings beneficial.—*Cosmos.*

HINTS.

I desire to caution young men not to be heroic and cut down and destroy a better natural crown than the artificial one put in its place. *Dr. W. N. Morrison, Dental Review.*

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I do not see how a crown can last unless iridio-platinum is used in preference to platinum over the band. I should consider a band very faulty that was made with platinum alone. This has been verified by a few unfortunate cases where I used platinum before resorting to iridio-platinum.

I now use iridio-platinum entirely for the band over the cap and for the post. Platinum alone is too soft. Pure platinum is as soft as pure gold. *Dr. J. W. Wassal, Dental Review.*

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There is an advantage in using iridio-platinum if you can make it fit, but by the time it is thin enough to work well in order to enable us to adapt it to the root, the band is not much stronger than a thicker piece of platinum would have been, while platinum has a softness which readily makes it fit. The extra tightness of the fit adds additional strength to it, and it will outweigh any extra softness of the material. When the metal is in contact with the tooth substance, I have found no disadvantage in the softness of the platinum itself.

Dr. W. H. Taggart, Dental Review.

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When the people are fully educated to an appreciation of what a professional man ought to get for a certain class of work, they will pay it. It is a slow way of reaching the masses, but it is sure. They will arrive there some time in the next hundred years. *Dr. T. G. Reid, Dental Review.*

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I always keep tin and gold prepared in my cabinet and can fill an ordinary cavity with it in less time than it will take to prepare the amalgam, and I have a better filling when done. I would say this to those who wish to try it, that in making your filling, if you wish to change from tin and gold, to gold, do not anneal the gold until you have the surface of the combined materials well covered with unannealed gold. If you do you will work up a crumbly surface on the tin and gold, which will cause your filling to part at that point. *Dr. Robbins, Dental Review.*

I filled teeth with tin and gold in proximal cavities of bicuspid teeth years ago, but I have not filled any in recent years. I do not like to have a patient return to me asking the cause of the blue line or discoloration. *Dr. Sitherwood, Dental Review.*

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Dr. J. W. Cormany: While we are on the subject of hypnotism I am going to give my experience of it. While I was preparing a cavity for a patient and had nearly completed the work, I suggested that it would hurt a little, and as quick as a flash she flew up and said, "What did you tell me that for. You have not hurt me a particle up to this time." She was a Christian scientist and had hypnotized herself up to this time and I spoiled it all.

Dr. Newkirk: Dr. Cormany's little story reminds me of an experience of my own, which fully convinced me of the value of faith cure and power of the imagination. I had a patient two or three years ago, a lady who had made a study of this matter, and at the close of a series of operations she told me that she had been treating herself by faith cure, or mental processes, while the operations were going on; and that whereas she had formerly suffered a great deal, this time she had not suffered at all. I will say further for this lady that she is thoroughly consistent in her logic. She carries the applications of her principles into business matters. She imagined she had suffered no pain; she also imagines now that her bill is paid. (Laughter.) *Dental Review.*

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You will find in the Johns Hopkins Hospital reports that a 7 per cent. solution of acetic acid was found to be more powerful than one to one thousand solution of bichloride of mercury. The addition of three parts of chlorine in the preparation of acetic acid does not render it less active as a germicide and destroyer of low forms of animal life, and consequently it may be considered in one sense a caustic. It may be used in full strength, or in 50, 40 or 30 per cent. solution, or even less. Dr. Dunn has frequently used it in the mouth, as I have myself in so-called canker sore of the mouth, with great benefit. A solution between 5 and 10 per cent. is quite strong enough, and you will find it acts admirably. It is a powerful constringer, and it will dissolve the calculus on the root of a tooth. Any one of you can drop a tooth in a 3 per cent. solution, and in two or three hours it will be so softened that with your fingers or thumb nail you can push it away, and it crumbles and disintegrates. If you are going to use an acid to assist you in removing deposits which you have failed

to remove, trichloracetic acid seems preferable to any of those that I have used. *Dr. Harlan, Dental Review.*

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Vulcanite plates with flexible rubber edges for securing better atmospheric retention. Pack flasks in usual way with ordinary vulcanizable rubber, using draughtman's tracing cloth between the halves of the flask to permit separation. When the mold is accurately filled with the ordinary rubber, as much of this is trimmed away with scissors as it is desired to replace with the flexible plate rubber, Dougherty's or its equivalent, this packed and pressed to place and the case vulcanized for three hours or more. For upper plates the edge in the palatal region can be just back of the rugae, leaving the palate uncovered. The flexible edge on uppers needs to extend only from a point back of the buccinator muscle on one side across the palatal region to the same point on the opposite side. For lower dentures the flexible edge must constitute the entire periphery of the plate. Samples shown show atmospheric retention impossible to secure by plates made of hard rubber entirely. The model should be trimmed according to best judgment of operator, where flexible rubber is attached. *Dr. W. V. B. Ames, Dental Review.*

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Aluminoid is a combination of rubber cement, any rubber dissolved in commercial chloroform, and aluminum powder. It is used to line the palatine surface of rubber plates.

To Make: Dissolve rubber (such as we are furnished for vulcanizing) in commercial chloroform; it should be of about the consistency of thick molasses, incorporate with this about twice its bulk of aluminum powder; mix well. This gives you aluminoid. Invest wax upper plate in usual way, open and remove wax.

To Use. Coat your model with liquid collodion and apply the aluminoid, which should be thinned with chloroform so that it will flow nicely, like paint; give four coats, allowing five minutes for each coat to dry; allow ten minutes or more for the last coat to dry. The case being packed, close and vulcanize; finish with brush and pumice, ending with chalk. The collodion and aluminoid are applied with camel's-hair brushes. The aluminum powder can be procured from dealers in art supplies. The cost is small, requires but little time to apply, and adds much to appearance and comfort of plate.

Dr. John G. Harper, Dental Review.

With reference to the use of silver in the Johns Hopkins Hospital reports for last year there will be found a reference to the cultivation of various pathogenic bacteria, which I believe is also referred to by MacFarland in his work on bacteria. The bacteria will not grow on silver plate. As soon as I learned that definitely I commenced to ligate teeth with silver suture wire. I had used it a good many times before, but not with any definite therapeutic or beneficial effect. I found in those cases where I made figure of eight loops and doubled them, fastened the ends well, that it would stay on for two or three months before it would be corroded. A gentleman in the *Dental Register* quite recently states that he has found in cases of pyorrhoea alveolaris, that in fitting a silver band around the neck of a tooth, right away the tooth commenced to get better. The idea is that by using silver bands and soldering them together, driving them well down on the tooth so as to get them as close to the edge of the gum as possible without irritation in connection with the local treatment, the cases get along extremely well. So I think that perhaps from the fact these various pathogenic microörganisms will not grow on silver, we have a mechanical therapeutic agent which will be of great value. *Dr. Harlan, Dental Review.*

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Sometimes patients are unnecessarily subjected to long operations of great severity. I recall one instance where a lady went to a dentist, who is a brilliant operator, but who, unfortunately, has no consideration for the feelings of his patients. She had always submitted to dental operations without murmuring. She had perfect control of herself, and acquiesced in the judgment of her dentist. She was willing to stand any reasonable amount of severity, and had really at times suffered much at the hands of this dentist. But this time she was in the chair a little longer than usual, the nervous equilibrium overbalanced and the result was collapse. She left his office apparently in good condition, but when on the street began to succumb. She went to a drug-store, secured some brandy, and drank it as rapidly as she could and in considerable quantities, but it did not have any effect on her. She has never been the same woman since that operation and never expects to be.

Dr. Newkirk, Dental Review.

I had one patient who sustained a severe injury in a railroad accident. The whole superior maxillary bone was detached from the nasal process of the frontal bone to the posterior part of the maxilla. It was broken in five pieces. The patient recovered from the operation which was performed, and in the sworn testimony in a court of justice in Chicago it was proven that the woman's entire nature was changed; that is to say, she originally had a sunny, bright, lively temperament, but now became morose and easily disturbed and looked on the gloomy side of life. The shock was so great that it evidently changed the molecular structure of her whole being. She was a beautiful woman before, and that might have had some effect upon her life.

Dr. C. R. Taylor, Dental Review.

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A word about what may cause this too prevalent evil of white decay, and the habits of people who present this condition: I find this condition usually in mouths subjected to uncleanliness, persons who are in the habit of lunching between meals, and cleansing their teeth in the morning before breakfast, or when they "dress up;" but the white decay is rare where the teeth are thoroughly cleansed just before retiring. The soft foods—or foods classed as hydrocarbonates—when allowed to remain on and between the teeth, especially at night, are in my opinion responsible for much of this white decay. Such foods form the hot-bed of decay and the base of supply for lactic acid.

In the past year I have questioned patients presenting this condition, and invariably find that they do not cleanse their teeth at night just prior to retiring; that they are in the habit of lunching or are habitual consumers of candy, or make a practice of taking a glass of milk on retiring. The girls at the typewriter; the maids in the kitchen; the mother with a number of children; the lean, slim person; the children who are continually munching on gingerbread with a cookie in hand, represent the class in which the greatest per cent. of this white decay is to be found. Where there is a general tendency to the conditions named, I think it improper to attempt filling of a permanent character. If the condition is allowed to remain, decay will be sure to follow in the near future and loss of fillings ensue. Do not attempt to fill teeth suffering with white decay until you are convinced that their surroundings are changed, or will be. Explain to patients the necessity of properly cleansing their teeth and the benefits to be derived therefrom. Get them to promise

to spend at least three minutes a day in cleansing their teeth, and if they cannot cleanse them but once a day, let that once be just before retiring for the night, thereby having the mouth clean for the greater number of hours of the twenty-four. Under these circumstances, we may expect more of our fillings and our work in general to be a credit to us and a joy to our patients.

Dr. I. C. Edgerton, Odontographic Journal.

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Adam is possibly the only man that never suffered from having a tooth pulled, and I expect he is the only one who has missed that delightful process, for somehow or other the Almighty arranged that for him so that no dentist was needed, and whether from Adam's time science has grown any less, or whether it has increased as the years have gone by, necessitating a special art and a special science for the alleviation of the woes of mankind, we cannot say; but we do know that American dentistry is rapidly taking its place among the progressive and polite sciences of the world.

Rev. F. V. Loos, Western Dental Journal.

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In preparing a tooth for the reception of a porcelain crown (Logan or Richmond), before excising the natural crown, if you will take a piece of French rubber tubing, about one-eighth inch wide and a little smaller than the tooth to be crowned, carefully work it up on the neck of the tooth and as close to the gum as you can get without causing too much pain, allowing the patient to wear it for forty-eight hours, you can then face the root off under the gum line without laceration, hemorrhage or discomfort to your patient, which I consider quite an advantage in doing a nice piece of crown-work.

If natural crown is broken off build down with cement sufficient to give room to adjust rubber tube.

Dr. F. E. Judson, Ohio Dental Journal.

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The form of secondary calcification most frequently met with is that known as secondary dentine, discoverable to some extent in canals and pulp chambers of most persons beyond maturity. Secondary dentine may be pretty evenly distributed over the walls of a pulp chamber, or confined to a particular section of the wall, or appear in form of tumors or nodulations—more or less pedunculated—firmly attached to the cavity wall. The benefits and evils of secondary dentine are about evenly conferred and well mixed, *i.e.*, neither is universal and absolute.

Activity of odontoblasts in secondary calcification may be manifested over a considerable portion of the surface of a pulp at once—provided the irritation were general—a condition most likely due to extreme temperatures or probable alternation of them. Whilst the odontoblasts are most actively engaged thus, the individual probably feels no discomfort, and the progress of deposition may be so slow as to require many years before producing noticeable effect; on the contrary, very extensive deposits may occur in a year or less time.

Dr. Junius E. Cravens, Ohio Dental Journal.

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In filling, two conditions menace success: First, low grade of dentine; second, indiscriminate selection of filling-materials, or defective manipulation. Normal dentine and grades higher require nothing more of a filling than the exclusion of liquid circulation, and no other material compares favorably with gold for this condition of dentine, which is not an electrolyte. The second condition embraces electrolysis, in that it includes a low grade of dentine, which is an electrolyte in proportion as it admits of fluid circulation. Gold fillings of this class cannot preserve teeth without the help of some other material to take the place of the mineral element lacking. Even perfect manipulation cannot prevent decay. Tin, which supplies this missing element, is softer than gold, is generally more easily adapted to the walls of the cavity, and an inexperienced operator would be more successful with it than with gold in filling normal dentine. In the lower grades the moisture in the dentine oxidizes the metal, the stannic oxide fills the tubili and the rough surfaces of the dentine with an insoluble lining which does not stain dentine or enamel. This principle is important in making alloys for amalgams and in compound fillings where two metals are used in connection. As in galvanized iron, after the zinc has been dissolved almost out of sight, there remains in connection with the iron an alloy of zinc and iron; so, when tin and gold are in contact, as in a compound filling, there is no separation at the joint, and the same is true of amalgam and gold, because atoms of gold form an alloy with the metal in contact with it, and that alloy is the solder at the joint. The two fillings are united, and the solder containing gold is finer than the tin or amalgam, and would be preserved until the mass was entirely dissolved. Two amalgam fillings show a line at the junction, because the soldering is coarser or contains more mercury than the filling on either side. A single thickness of gold placed in the joint would be the last portion to be dissolved.

Where gold and tin are combined for guard fillings, when only a few layers of tin foil are used, all over one or two thicknesses of the tin which is in contact with the gold will be dissolved and become a black metallic paste. It is better to use a thin lining with gold, or make it quite a portion of the filling. Either plan works well, as no tin will be dissolved. Large fillings can be made of gold and tin, which become as hard and durable as amalgam, but they must be used in alternate layers. Too much gold will do no harm, but tin in excess will be dissolved out, leaving pits upon the surface, these changes only occurring as the filling is wet.

In filling low-grade dentine with gold the metal is placed in contact with living organic tissue, the surface of which is devitalized and its sensibility destroyed. This does no harm unless the dentine is an electrolyte or non-conductor. When it is a conductor, devitalization continues by electrolytic action, the current being conducted through the filling. Gold in the mouth is charged with electricity, which charge is called electric potential, the degree of which is determined by that which is in the mouth at the time. Saliva is nearly neutral as to acid or alkali, but is easily decomposed by other elements taken into the mouth as food. The sensation of taste is due to chemical action upon saliva. Electricity proper belongs to the mineral kingdom, which is why currents generated by galvanism are not pleasant to the taste, nor are the elements from which such currents are generated nutritious as food. *Dr. S. B. Palmer, Cosmos.*

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Dr. C. C. Harris said there was one condition that sometimes occurs in a tooth which is seldom heard of, but may cause serious trouble; that is, where living nerve and blood-vessels in one root of a tooth are shut off by dead nerve and blood-vessels in another root. In such a case the trouble may only with difficulty be discovered. The cause might arise from osteitis, pulp-stone, or strangulation. He described a case, a lady who suffered severely from neuralgia, and who was under his care and receiving attention from a physician at the same time for several months. He had filled a molar through an anterior cavity without suspecting the condition. Another patient had a molar with a cavity on the posterior side, and the posterior root with the pulp dead and foul, but upon examination the anterior root was found in a healthy condition. This opened his eyes to the possi-

bility of the other case being of the same nature. Upon examining the tooth, he found the posterior root filled with a dead pulp, but the anterior pulp was alive. He killed this pulp, treated the root, and the neuralgia was cured. He spoke of other cases of the same character in his practice.

Dr. Harris described the case of a patient who had applied to him for treatment, suffering with nasal catarrh. Upon examining the teeth, the right superior third molar was found to be sore. This tooth was extracted, and immediately there was a great flow of pus from the antrum. This showed that even the third molar may in some cases cause antral trouble.

Dr. Thompson described a case in which there was an evacuation of pus into the mouth opposite the second molar. It was almost impossible to make an examination on account of the inflammation and exfoliation, but at length it was discovered that there had been an application of arsenical paste in the third molar, and this had caused periostitis. The patient was ordered to take a course of brewer's yeast, and in a month he had gained nineteen pounds in weight, and the flow of pus had nearly ceased. In six weeks he was able to open the mouth and extracted the tooth.

Dr. Emory A. Bryant described a case of a woman who had become nearly blind and suffered terribly with neuralgia. Upon examination of her mouth, he discovered two impacted teeth. Upon extraction of these, the neuralgia ceased and the sight was much improved. Another case of his was a lady who for ten or twelve years had suffered from neuralgia. The teeth showed no signs of decay except one molar. This was found to be too sensitive to allow of its being filled. He extracted it, and on examination he found the pulp in a watery state. He extracted another tooth and found it in the same condition, with a secondary deposit of dentine, and proceeded to extract all but the anterior teeth, and all were in the same condition. The patient was provided with artificial teeth, and had no further trouble with the neuralgia.

Dr. E. P. Keech described the case of a lady, eighty years of age, who had been sent him by a physician for diagnosis. On the left side of her face was a tumor, and on the floor of the palate another about as big as a small hickory-nut. She informed him that some time before the lateral incisor had dropped out. The only tooth left was the left central and a small cuspid root. He found that a probe could be passed into the antrum through the left lateral incisor space, and having extracted the cuspid root,

an opening was found here also into the antrum. He treated with peroxide of hydrogen and got a good flow of pus, but still the external tumor pointed, and he had to lance it. Considerable pus came from this, but he finally got it cured. The tumor on the floor of the palate was reduced to the size of a pea, but he had to lance it and got more pus. His diagnosis is necrosis, and he is puzzled to know what to do with it on account of the great age of the patient. If she were younger, he would administer a general anaesthetic and clean out the necrosed bone, but hesitates on account of her advanced age. Has treated it with aromatic sulphuric acid. *Discussion, Cosmos.*

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The preparation of cavities in teeth to receive gold does not admit of frail cavity-walls; does not admit of overhanging walls; does not admit of rough or irregular edges. I have particularly found that good, substantial walls with nicely polished edges are essential to success. I also advise, in approximal fillings, to cut back far enough to expose the point of junction between the gold and the tooth-substance, so as to admit of proper cleansing. In approximal fillings especially secure the point of contact between the two teeth in gold.

Regarding the insertion of gold into such cavities, I stand here as an advocate of the good old-fashioned method of hand-pressure; the motto ever before me being, that the great essential is not rocky solidity, but adaptation to the walls of the cavity with sufficient condensation to prevent disintegration. Mallets may be rapid, but time is nothing and the result everything. I verily believe that many fillings fail from the effort with mallets to obtain unnecessary solidity. He who has cultivated strength in his fingers with that peculiar motion known to a hand-worker, and the drop of the wrist, can properly impact gold without mechanical adjuncts which only too frequently comminute the marginal edges of the cavity. Small pieces and small points, with not too much annealing, are the other requisites to success. Use, but be cautious in your use of matrices, and always contour your work.

The proper finishing of fillings I have found to require that the cavity should be filled to a little, a very little, over flush, and never so full as to be excessive, and then a thorough and persistent use of burnishers to the large exclusion, or very cautious use, of stones and files.

My last consideration is not the least in importance, but lies in the hands of the patient. The best work is liable to failure if the patient is careless in cleanliness. Having done all, every effort should be made to impress the need of this great adjunct upon the minds of those to whom the jewels are intrusted.

Dr. L. Ashley Faught, Cosmos.

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The practice of dentistry is the work of your life. It is as honest, useful and legitimate a branch of human industry as any other on the face of the globe, and no one earns his wants of living more fairly, and both common sense and bodily necessity require that you should try to provide properly for yourself and for those dependent upon your labors for support. This you cannot do unless you have a business system, for upon system depends your professional and financial success.

If people do not pay, you cannot live by your calling, and you will very soon tire of all work and no pay. If you render bills promptly it teaches people to look for them and to prepare to pay them just as promptly as they do other family expenses. It is often more advisable even to submit to a reduction in a bill for prompt payment, than to let the amount stand over and run the risk of losing it through the pay-when-you-please system, for while you are waiting someone may fail and others abscond. You should render your bills while they are small and your services are still vividly remembered.

When patients ask you how much their bills are, always reply with courteous promptness and decision, "one dollar," or "ten," or whatever the amount may be, large or small; and if you are careful to avoid prefacing this reply with other words, most people, in the embarrassment of the moment, will proceed to pay you without objection, where if you add more words it will weaken your claim in their minds, or impress them with the belief that you have no settled charge and will furnish them with a pretext to show surprise and contend for reduction. When one does demur at the moment, show your amazement and prepare at once to defend or explain the justice of the charge.

Patients will often ask: "Doctor, when shall I pay you?" or "Shall I pay you now?" A good plan is to answer promptly, "Well, I take money whenever I can get it;" "Short payments make long friends;" "Prompt pay is double pay;" or something to that effect. Never give such answers as "Oh, any time will do," or, "It makes no difference when," or you will soon find it to be very expensive modesty.

Clyde Payne, Odontographic Journal.

EDITORIAL.

SALUTATORY.

The Consolidated Dental Manufacturing Company having purchased the well-known dental journal, ITEMS OF INTEREST, have offered me the editorship. In accepting the post, I desire to say a few words to the subscribers and to the editors of the other journals.

The ITEMS OF INTEREST was suddenly acquired, on or about the 25th of July. Naturally, the matter in course of preparation for the August issue should have been delivered with the other property. Nothing whatever, either in the shape of manuscript, or proof-sheets of matter already in type, was turned over to the new proprietors.

At the time I was enjoying a much-needed vacation in the White Mountain region—my first holiday since undergoing an operation for appendicitis about a year ago. Dr. J. F. Frantz, the President of the Consolidated, visited me in my retreat, and endeavored to persuade me to return at once to New York and get out an August number. This I positively declined to do, believing that my health demanded a continuance of the rest which I was enjoying. I further believed that dentists are reasonable men, and that an explanation of these circumstances, with the issuance of a double number in September, would be both acceptable and satisfactory.

The present owners of this journal made me a very liberal offer to induce me to take charge of their new venture, and in the interest of all, I desire to make known the most satisfactory features of the final terms of our contract. In the first place I have been given the exclusive control of the scientific portion of the magazine. Upon me will rest the responsibility for obtaining, selecting and publishing all that may therein appear. In plainer words, I shall be as unhampered in the management as though the ITEMS OF INTEREST were my personal property, and I believe that my professional reputation is such, that I need scarcely assure my *confreres* that in the future, so long as I shall

be at the helm, the pages of the ITEMS OF INTEREST will be conducted solely in the interest of dental science, and will in no manner, and at no time, be subservient to a trade interest. Should any one invent any instrument, device or method, which, in my opinion, might become a benefit to our profession, I shall be ready and glad to accord space for a description of it, regardless of who may be the proprietor.

I prefer not to announce specifically any of the changes which I contemplate. Promises may be made in good faith and subsequently broken through force of circumstances unforeseen. I may say, however, that a special capital has been placed at my disposal, sufficiently large to enable me to carry the journal into the front ranks, and that financially the ITEMS OF INTEREST will therefore be independent. We shall endeavor to make a feature of high-class illustrations, wherever such illustrations would aid the text. It is our hope that within a very brief period, under he new management, the journal will become the mouthpiece of the best writers and most scientific minds in the dental world.

In spite of the fact that we come into possession of the journal in the middle of the year, after all subscriptions have been paid to the previous owners, we have nevertheless decided to make no material alteration in the general appearance or topography of the magazine, in order that the many hundreds of dentists who bind their completed volumes, may add this year's volume to their libraries in uniform continuity.

But beginning with the January number we anticipate making such changes as shall mark the beginning of the evolution which we intend to inaugurate.

It is with regret that I note that my brother editors have recently complained of the custom of using matter without proper credit. In this respect I promise at once, not an evolution, but a revolution. In future one of the axioms which shall adorn the walls of the editorial sanctum, shall read: "Credit where credit is due."

Very cordially,

RODRIGUES OTTOLENGUI.

THE ITEMS OF INTEREST DENTAL MEETING.

The midsummer meetings of the great dental associations were a disappointment, not to use a stronger word. Many of the papers were excellent, but the attendance was so meagre that the authors must have felt chagrin to find so few listening to essays, which perhaps cost days and weeks of preparation. The number of dentists at Asbury Park, at Ashville and at Saratoga, was smaller than at any previous meeting of either of these societies in a number of years. Why?

Have dentists lost interest in society work? No. This negative reply is warranted by the fact that the attendance at the annual meeting of the New York State Society was greater than it has been in several years. The New York meeting, occurring as it does in the early spring, places it in a different category from the midsummer meetings; nevertheless their fine attendance this year proves that, given the proper inducement, dentists will congregate as of yore.

In reference to the meetings of the two National Associations, an article by Dr. A. H. Thompkins, republished in this issue, is most pertinent, yet we believe that the true cause which must account for absence of so many from the midsummer meetings this year, is to be found in the fact that the programmes offered no novelty. The men are tired of visiting Asbury Park—tired of Saratoga—tired of traveling long distances to be met by nothing but cold science and hot weather. A dentist of the old school was horrified to find so few men at the meeting of the American Dental Association. He was distressed to note that as few as there were present, fewer still went into the lecture rooms. He expressed himself freely in the lobby of the hotel, and predicted that the new race of dentists would pull down the stately edifice which the older men had erected at great sacrifice.

We do not—we cannot share these pessimistic views, but prefer to take our cue from another distinguished, but younger man, who said: "I told the boys when I left home that I did not go East to listen to papers, because I could read them and

better comprehend their meaning when published in the journals. But I hoped to meet some of the men from other sections—to exchange experiences, and become more interested in their work, through acquaintance with their personalities."

This man is right. A meeting which shall offer to those who attend, an opportunity to make new friendships, to see new faces, and above all to combine with the many pleasures of a dental convention, the equally pleasurable joys of a true holiday, in our opinion would attract hundreds of men, who would also bring their wives. Of course, there should be scientific sessions. Otherwise there would be little about the gathering which would make it other than a social assembly. But in our view, what the tired dentist needs in the summer is a reasonable sprinkling of holiday sauce with his scientific pudding. Moreover, we have the courage of our convictions, and herewith announce a new departure.

Immediately following the meetings of the Southern and the American Dental Associations, which are to be held next summer at Old Point Comfort, the ITEMS OF INTEREST will hold the first dental meeting ever inaugurated by any dental journal.

If possible, a special train will be in readiness to take all who desire to attend, direct from Old Point Comfort to the Twin Mountain House, which is in the heart of the famous White Mountains of New Hampshire. This is a first-class hotel in every respect, and the proprietors, Messrs. W. A. and H. Barron, are the most hospitable hosts imaginable. Here, amidst the grandest scenery in the East; where the guests read in the Boston and New York newspapers of "hot waves" and wonder what the words mean; where the peaks of the high mountains soar towards the sky on all sides, catching and holding the drifting clouds so that the shifting shadows make endless panoramas in the beautiful valleys; here we will invite the dentists of the North and South, of the East and West, to commingle in fraternal commune, visiting the many startling wonders of Nature by day, and after a hearty meal, made doubly enjoyable because of the excursions, we will devote the evenings to Science—Science with a capital S—and to discussions which shall satisfy even Professor J. Foster Flagg.

We shall devote the entire year to the work of making this mountain meeting a monumental success, and details will be given from time to time as they are perfected. But at the outset we wish to announce that the ITEMS OF INTEREST will present two handsome medals as prizes for essays. The first prize medal will be of gold, and the second a *fac-simile* of it in silver. Specially appropriate original designs will be chosen for these medals, which will be awarded in accordance with the decisions of a competent board of judges, comprised of men who shall have national reputations for scientific ability and professional integrity.

THANKS.

I desire to express most heartfelt thanks to all who have so promptly offered their congratulations and encouragement. To the New Jersey State Society, which is the first to tender us the privilege of publishing its papers. To the two hundred dentists of Brooklyn, New York and vicinity, who have already added their names to our subscription lists; and to the many others who have sent autographic letters expressing their friendship. To all, thanks! A thousand thanks!

RODRIGUES OTTOLENGUI.

CORRESPONDENCE.

SPRINGFIELD, Ill., July 20th, 1896.

RODRIGUES OTTOLENGUI,

Dear Doctor:—In your very valuable ITEMS for June there appeared a communication from Dr. G. G. Brock, of Sheldon, Iowa, in which he complains that the Royal College of Dental Surgeons, of Ontario, in refusing to accept certificates of students from other colleges is not living up to the rules of the National Association of Dental Faculties; and he calls upon the Association to "Touch up her haughty member beyond the line, and compel her, if she stays in the Association, to recognize students from American Association schools."

Dr. Brock feels that the R. C. D. S. O. has treated him very unkindly. He matriculated into the Dental Department of the University of Iowa, with a high-grade teacher's certificate, yet was denied admission into the above-named institution because such qualifications did not include Latin. He also gives, as another reason for his dissatisfaction, that some of the States welcome Royal College graduates with open arms.

Where are they? I wrote to the Secretaries of several State Boards; and, though I have the honor of "being ground through the Royal College mill," receiving my L. D. S. in 1891, and am also a graduate of the Dental Department of Toronto University, I was requested, by every board, save Maryland, to stand an examination. Upon proof of my L. D. S. I received a certificate of license in that State; but I understand they too have changed their laws.

I do not consider it a hardship because the Illinois State Board of Dental Examiners required me to go to Chicago last March for examination before they would grant me a license, as I can easily see where trouble might arise were they to accept a college diploma as proof of a candidate's ability.

We have in this country some of the best dental colleges of the world; but to our great sorrow and shame, we are obliged to admit that there are a few which are unworthy of the name college. Even in the Association there is a vast difference in the grading of our colleges. Some of them require, as a matriculation, only a very limited knowledge of our common English.

Ontario has held the highest position in America, when we consider the matriculation standard of her School of Dentistry. At present, the minimum standard is a provincial third-class teacher's certificate, or its equivalent, with Latin. But the board have found that in order to keep pace with medicine, pharmacy, and sister professions in Ontario, they must raise the standard, and have wisely decided that after the 1st of September next, the minimum standard shall be a second-class certificate with Latin.

The rule in Ontario is, "Come up to the requirements or remain outside." Mr. Brock could not fill the bill; and, as he had to occupy that spacious apartment, is now endeavoring to enter a feeble protest to reduce the standard in Ontario.

Were the Board of Directors of the R. C. D. S. O. to accept as a matriculation certificates from any college in the Association, a gross injustice would be done those students who take their entire course in Ontario. Young men, mere graduates of the Ontario public schools, would enter one of these colleges which do

not demand a very high standard of matriculation, attend two sessions, of six or seven months each; and after spending their vacations as farm hands or book agents, demand entrance into the R. C. D. S. O. for the final term. This would save them from two to four years' pupilage in high schools or collegiate institutes, and two years under preceptors, as provided by the R. C. D. S. O. Under these circumstances, of what use would it be for Ontario to have a high standard of matriculation?

The demand, everywhere, is for higher and better legislation; and as Ontario has had over twenty-five years' test of her dental laws, let Dr. Brock give a more plausible reason why she should come down from her exemplary position in this particular, than suiting the pleasure of one student; yea, even a graduate from Iowa.

When, a few years ago, the Board of Directors for the R. C. D. S. O. asked for affiliation with Toronto University, the latter demanded Latin as a part of the matriculation, and our board agreed. This well-known university has always held a first place in educational matters, and all the world over her M. A., B. A., etc., are recognized as genuine high-grade diplomas; and it is useless for Dr. Brock, or any other person, to ask Toronto University to lower her standard.

Ontario dentists do not claim to have the best college under the sun, but are doing all in their power to keep their college abreast of the very best colleges in this grand Republic. The Board of Directors are not appointed by any political party or government official, but are elected by ballot, by the practicing dentists resident in the Province. They are dentists taken from the various districts of the Province, and are responsible, not only for the college, but also take the place of State Boards of Dental Examiners in this country, and have they not as much right to say what shall be the character of their examination as any State Board? G. H. HENDERSON, L. D. S., D. D. S.

THE FIRST PAN-RUSSIAN DENTAL CONGRESS.

It was a discreet move on the part of our Russian colleagues to select the time and place of the Nijni-Novgorod Pan-Russian Exposition for the first demonstration of their existence as a professional corporation. Those responsible for this epoch-making event deserve therefore much credit, and that the Russian dentists themselves had understood this quite well, was shown by

the great honor conferred by them on Dr. Walter, of Nijni-Novgorod, who gave them the constitution of the first Russian Odontological Society.

The large hall of the Commercial Club, which was nicely decorated with flowers around the busts of the young Emperor Nicholas II and his august wife, was rather too large for a gathering of some forty male and ten female representatives of our profession, but the youthful enthusiasm prevailing made up for the lack of numbers.

Dr. Limberg, of St. Petersburg, who is well known for his scientific and practical contributions to Russian dental literature, was elected president; Dr. Sinitzin, publisher of the popular *Zubovrachebni Vestnik*, Vice-President; Dr. Fischer (Moscow) Corresponding, and Dr. Kavaleff (St. Petersburg), Recording Secretaries.

Of the papers read during the three days of active work those especially worthy were those of Drs. Riabkoff, on the "Combined Method of Extraction;" Fischer, on "Professional Honor;" Totven, on "Replantation," and Fredkin, on "Teeth of School Children."

There was great excitement when the question of professional ethics was discussed. It appears that two members of the profession—Weintranbe, of Moscow, and Khruschoff, of St. Petersburg—have made exhibits at the exposition, and the gentlemen of the Congress went so far as to petition the authorities for the removal of the "horrible" faces—as they called the masks showing operations performed after resections of the jaws. They did not succeed in this, for the Militaro-Medical Academy of St. Petersburg had taken Dr. Khrustchoff's exhibit under its protecting wing, declaring that they are useful popular exhibits of very difficult chirurgical and dental cases. However, a majority vote declared against such exhibits in the future, except at the halls of a dental congress or meeting.

While on this point it will be of interest to observe that the exhibits of Dr. Khrustchoff, besides their scientific, artistic and educational value, have for the American manufacturers a practical significance. In crude forms some of the mechanical exhibits represent the beginning of a new departure in Russian dental life --they no longer buy simply what is offered them, but attempt, for instance, to reproduce the most modern scientific applications of electric power to the dental art. As yet there need be no alarm, but it is an interesting phenomenon, and deserves mention in the ITEMS OF INTEREST GEO. RANDORF, Berlin.

ITEMS.

There is only one "best."

* * *

When you find a cavity, there is but one material which is "best" suited to its condition.

* * *

Generally speaking 1 gold filling is worth 16 "silver" (amalgam) fillings—but one *perfect* "silver" (amalgam) filling is worth 1600 bad gold fillings.

* * *

There is a glaring sign on Third Avenue, in this city, which reads: "Genuine Continuous-gum Sets on Pure Gold—$25."

This graduate evidently does not hesitate to draw upon himself the contempt of other dentists, provided the word "gold" will bring him patients and silver.

* * *

The hat worn by Napoleon at Eylau was sold in Paris in 1835 for $400. The coat worn by Charles XII at the battle of Pultowa brought over $100,000. A wig that once belonged to Sterne, the great English writer, was sold at public auction in London a few years ago for $1,050. In 1816 a tooth of Sir Isaac Newton was purchased by a nobleman for $3,650. The buyer had a costly diamond removed from his favorite ring and the tooth set in its place.—*St. Louis Republic.*

* * *

Dr. T. M. Hunter, of Fayetteville, N. C., has devised a novel and very ingenious method by which difficult roots, buried up in the jaw, may be removed without laceration. He has a set of old-style How screw post crowning instruments. A hole is drilled in the root, along the canal if possible; then a thread cut with a tap, and a long nickel screw turned in slightly. With a pair of pliers this screw may be firmly grasped and with a slight lateral motion the root is loosened and brought away. Hereafter it should be considered malpractice to destroy the alveolus in extracting this class of roots.

* * *

One of the Jersey wits related this as having occurred to a New Jersey woman who visied a New York dentist. The patient had three teeth filled with gold; said fillings dropped out at the end of three days. She indignantly returned to the Metropolitan dentist. "Madam," said he, "how did you go home from my office?" "I took a hansom down Broadway," replied the lady,

"and then walked to the ferry." "Well," said the dental surgeon, "I am astonished that a woman of your intelligence should not have known better than to ride in a jolting vehicle over a rough pavement with new fillings in your teeth. That relieves me from all responsibility!"

* * *

The following experience is related by a gentleman, who, being in Paris last summer, concluded that, as he needed dental service, he would try a French dentist. He was very much surprised when his tooth was announced to be filled, having felt scarcely any pain during the operation. "We French, we avoid making ze pain," said the operator with an expressive gesture in which both shoulders were involved. The gentleman dined with some friends and immediately thereafter missed his new filling and returned to the dentist. "Have you used ze toosepick?" asked the French scientist. The patient admitted his guilt. "Ah!" was the reply, "I am ze great enemy of ze toosepick." He might have said with equal truth that the toothpick was his great enemy.

* * *

NATURAL PROTECTION AGAINST BACILLI.

The interesting medical fact, stated on credible authority, namely, that secretions of the mucous membranes, especially saliva, possess antiseptic properties under certain circumstances, has been thought to explain the principle by which the germs that enter daily and hourly through the mouth do not reach a harmful development. But Edinger has now found, it is stated, the active principle in potassium rhodonate, which is present in saliva—a compound of sulphur, cymogen and potassium—and is, in large quantities, poisonous to warm-blooded animals; it is, like other rhodonates, fatal to bacilli. A quinolin rhodonate, lately produced, is said in a solution of three parts to the thousand to kill the cholera bacillus in a minute, and in a solution of three times this strength to kill the diptheria bacillus in the same time. It was found, too, by further researches that this rhodonate has the effect of carbolic acid and of corrosive sublimate, and at the same time is harmless to man.

* * *

DENTAL PAIN.

A very unusual case of pain following the extraction of a tooth has been brought to the attention of the Odontological Society of Great Britain, the patient, who was a female of some

twenty-three years, having suffered pain, periostitic in character, from an upper third molar. The tooth was removed without difficulty, but the socket remained intensely painful for the next twelve days, notwithstanding the repeated applications of such remedies as strong carbolic acid, tincture of aconite, cocaine and hot poppy fomentations. During this period the socket granulated healthily except at its apex, where on examination a spot about the size of a pin's head was discovered, which appeared white in color, and caused, on being touched, the greatest agony. Thinking that the case was due to the exposure of the end of the nerve, the operator treated it by division of the nerve just below the surface of the wound, the result being completely satisfactory, as the pain ceased immediately when the operation was finished.

* * *

MEDICAL USES OF EUCALYPTUS.

In Australia the natives are found to be thoroughly well informed as to the medical properties of the eucalyptus tree, and use its leaves for almost every ill to which flesh is heir; it is thought probable, too, that the attention of the whites was first attracted by them to the medicinal qualities of the tree. The steam from an infusion of leaves is regarded as a valuable remedy for catarrh and other throat affections and soreness of the chest; the leaves, when pounded up after boiling and applied outwardly in the form of a poultice are effective in reducing severe pain, and it is found that a glass of hot eucalyptus water drunk every morning imparts positive vitality to a weak stomach; the oil, which in Australia is extracted from a special variety of the tree richer in this respect than the blue gum, has a high remedial repute in the case of rheumatism and for binding up wounds, being likewise preferable to carbolic dressings as an antiseptic. The swampy, noxious Campagna, near Rome, is said to have been made habitable by the introduction of this tree to counteract malaria, and the same fact is related of localities in Algeria. The leaves absorb the moisture from the swamps and evaporate it quickly, while the volatile oil assists in dissipating zymotic conditions.

* * *

THE MILK QUESTION AGAIN.

A study of the "modified milk" practices now in vogue has been made by Dr. Worcester, of Waltham, Mass., and in the most thorough manner. It is, he says, a common mistake to add lime water or soda to modified cow's milk, and, although to lit-

mus the milk appears to be acid, it really is not so, the litmus test being deceptive in estimating the acidity or alkalinity of phosphate solutions; lime water added to an infant's food overtaxes the stomach by wasting just so much gastric juice as is needed to offset the alkali, but when the infant's digestion is weak, dilute hydrochloric acid added to the milk mixture is right in theory and of marvelous advantage in actual practice. Again, as regards the practice of increasing the richness of an infant's food or of prescribing different qualities for different ages, it needs only to be said that it is nonsensical to prescribe increasingly richer beef and bread and potatoes for children as their years increase; a mother's breast milk increases in quantity as her baby's stomach grows larger, but there is certainly no such change in its quality as is set forth in the intricate tables contained in certain text-books, etc. Dr. Worcester asserts that the milk should be of 9½ per cent. richness in fat; and when the source of supply is not known to be unquestionable it is probably better to sterilize the milk.

* * *

IMPROVED METHOD OF USING DISINFECTANTS.

Dr. Breslauer, in a foreign medical journal, reports an exhaustive examination of various disinfectants, such as carbolic acid, corrosive sublimate, boric acid, nitrate of silver, etc., in combination with oil, vaseline, fat, lanolin-anhydricum, lanolin and unguentum leniens. The degree of antiseptic power proves, he says, to be remarkably influenced by the diluent employed, and in all cases the best antiseptic results were obtained with disinfectants in combination with lanolin or unguentum leniens. Experiments are mentioned in which, with 5 per cent. of carbolic acid in various substances, it was found that the microbe of boils, for instance, survived immersion in carbolized oil for three days, in carbolized vaseline one day, in fat four hours, in lanolin-anhydricum two hours, in lanolin thirty minutes, and in unguentum leniens twenty minutes, similar results being also obtained with other bacteria and other disinfectants. In ointments, therefore, the disinfectant should be used in combination with lanolin or unguentum leniens, instead of with oil, vaseline or other fats.

* * *

SURGICAL ART.

A surgeon in one of the London hospitals is credited with having lately performed one of the most remarkable operations on record. It seems that some months since a young man with-

out a nose asked the authorities at the Charing Cross Hospital whether they could obtain a real nose for him. To oblige the applicant an amputated finger of another patient was grafted on to his face, but it was found that the amputation had caused the finger to die. The noseless man, nothing daunted, then agreed to the surgeon's suggestion that one of his own (the patient's) fingers should be cut off to furnish the nasal organ, but in order that the finger should not be wasted in the event of the operation being unsuccessful the patient's arm was incased in plaster, and for four weeks he had to hold his finger to his face in the hope of it taking root. This it did. The finger was then taken off the hand and now remains fixed as a nose. It has been manipulated so that it is no longer to be recognized as a finger, and the process of shaping it is going on.

* * *

SURGICAL VALUE OF PEAT.

It is thought that peat wool is destined to play an important part in army and veterinary surgery, it being, when suppuration has set in, a desirable substitute for all other materials, such as lint and absorbent cotton, while its cost is only about half that of ordinary cotton wadding; it absorbs nine times its own weight in moisture, and at the same time it is an admirable antiseptic. So valuable has it been found for dressing wounds that the French Government is said to have adopted it for use in the French army, some twelve thousand kilograms of it having been sent to Madagascar for that purpose during the late expedition to that island. Even the dust given off is utilized, forming a most effective deodorizer and disinfectant.

* * *

THE HUMAN VOICE.

An inquiry having recently been instituted in London as to the greatest distance at which a man's voice could be heard without telephonic means, it appears that eighteen miles is reported as the longest distance on record at which a man's voice has been heard—this, as related, having occurred in the Grand Canyon of Colorado, where one man shouted the name "Bob" at one end, and his voice was plainly heard at the other end, some eighteen miles away. Lieutenant Foster, on Parry's third Arctic expedition, found that he could converse with a man across the harbor at Port Bowen, about one mile and a quarter distant; and Sir John Franklin said that he conversed with ease at a distance of more than a mile. Dr. Young records that at Gibraltar the human voice has been heard at a distance of ten miles.

HINTS TO ADVERTISERS.

WORLD'S MEDICAL AND DENTAL COMBINE ! ! !

COMBINATION OF THE WORLD'S MARVELOUS MEN ! ! !

Branches of our "Parlors" in all parts of Europe, Asia, Africa, America and Mars.

"INCURABLE DISEASES" CURED !

Mumps and Measles, Fits and Fevers, Dysentery and Drunks a Specialty !

Get one of our "Electro-Humbugo Liver Pads," and live for a Century !

Get one of our "Cobble-Stone Chewer" Sets of Teeth. They bite, you bet !

$10 sets for $5.

$5 sets for $3.49.

$3 sets gratis, with a Free Lunch.

Teeth and Corns Extracted with Musical Accompaniment ! Only *Sacred Music* with extractions on *Sundays !* Heavenly and Hilarious Harmonies for Hypochondriacs. Babies Vaccinated on Bargain Days Free.

Our "Universal Cosmical Cure-All" will revive the dead—dead beats, dead heads and dead drunks.

Wrinkles removed and Dimples done to order.

OLD SETS OF TEETH BOUGHT.

Old sets of Deceased (or Diseased) friends sterilized, and made to fit all comers.

We bury free those who do not survive our treatment. During the College session we compound corpses—light weights preferred.

We keep open *All Night* for those who are ashamed to be seen coming to us in day-time. We do most of our business at night.

Our Crown and Bridge Department is in charge of several Crowned Heads, and the builders of fourteen Japanese, Chinese and Chicago Junk Shops. They meet you at our door, and take you in at any time. Easy sleep the heads that *wear our* Crowns!

We use the X rays. It helps us to raise the wind in warm weather.

Balloons and Bicycles ready, with our Associates in full war-paint, Local Anaesthetics, Forceps and Life Insurance Policies.

To meet the demands of busy men our Experts will fill or pull your teeth on the cars.

We do not charge for advice, examination, etc., as we give you the worth of your money.

STARTLING DISCOVERY ! ! ! ! !
WE WASH OUR HANDS NOW ! ! ! ! !
WE ARE STERILIZED NOW ! ! ! ! !

We sleep in sterilized linen, and speak sterilized grammar.

And Don't you Forget it ! See ?

We've Syndicates for Sugar,
And we've Syndicates for Shoes,
We've all sorts of monopolies
Of every kind you choose.
But of all the brilliant fancies
Which take the cake and wreath,
There's nothing half so clever
As our Syndicate for Teeth !
Teeth ! Cheap Teeth !
The whitest you ever met,
You can chew when you're blue,
Or bite when you're tight,
And only $3.00 a set !

* * * * * * *

The above very witty suggestions for Quack advertisements appeared in the *Dominion Dental Journal* for July, in which the editor advises the regulars to "poke fun" at the quacks, but the following is a copy of a genuine circular used as an advertisement by the professional (sic) gentleman whose name it bears.

TO WHOM IT MAY CONCERN.

While I graduated neither in Paris or Berlin, and am not a Specialist, I believe that times are hard with many of you, and that you would appreciate lower prices for Dental work. I have been here eleven years, and mean to stay, so will cut prices to suit your purse. I put on no professional airs, pay no rent, and raise my own greens, so need but little money.

N. B.—I pay no debts, so collect none.

I will, for Cash or Greenbacks, Extract Teeth for 25 cts. each. Fill teeth with best White Alloy for 50 cts. each. Put in Upper or Lower Set best teeth for $8.00. Full Set best teeth for $15. I use the BEST local Anaesthetic, for which I charge cost of medicine. 10 cts. each. Come to my house for work at above prices. If anyone can work for less price, so can I.

GEO. W. KENNEDY, Dentist.

North End 4th St., St. Petersburg, Fla.

NOTICES.

DENTAL SOCIETY OF SOUTHWESTERN MICHIGAN.

The Dental Society of Southwestern Michigan will hold its semi-annual meeting at Dowagiac, September 8th and 9th, 1896.

The Executive Committee are arranging a very interesting programme, and a good attendance is expected.

A cordial invitation is extended to the profession in this and other States.

E. I. BACKUS, D.D.S., *Secretary*, St. Joseph, Mich.

* * *

ODONTOLOGICAL SOCIETY OF THE NATIONAL UNIVERSITY.

At the initial meeting of the Odontological Society of the National University held July 7th, 1896, the following officers were elected for the ensuing year: J. Roland Walton, President; J. H. P. Benson, Vice-President; H. Jerome Allen, Secretary; Frederick F. Daly, Treasurer; Andrew B. Stine, Librarian; Edgar E. Rankin, Essayist.

H. JEROME ALLEN, *Secretary.*
419 H street, N. E., Washington, D. C.

* * *

At the twenty-sixth anual meeting of the New Jersey State Dental Society, held at Asbury Park, N. J., July 29th to 31st, inclusive, the following-named officers were elected: President, Harvey Iredell, D. D. S., New Brunswick, N. J.; Vice-President, J. L. Crater, D. D. S., Orange, N. J.; Secretary, Charles A. Meeker, D. D. S., Newark, N. J.; Treasurer, George C. Brown, D. D. S., Elizabeth, N. J.

* * *

The Dental Department of Howard University, Washington, D. C., was elected to membership in the National Association of Dental Faculties at the meeting lately held at Saratoga, N. Y.

This college is mainly devoted to the education of the colored race, and supplies a felt need in the list of colleges. There is no need in dentistry greater than for well-educated colored dentists. Such can always find plenty of remunerative work from the start. There are in the city of Washington over 85,000 colored people, many of them well able to pay, but few, if any, of them can get entrance to a reputable white dentist's office. All over the South the same demand exists. Such a dental college should be encouraged.